

In the matter of the amendment of ARM 17.8.740 and 17.8.767, pertaining to definitions and incorporation by reference, and the adoption of New Rules I and II, pertaining to mercury emission standards and mercury emission credit allocations.

Public Comment Summary

No Hotspots/Local Deposition in Montana; Mercury Is A Global Problem

COMMENTS: Many commenters stated that reducing, or eliminating, mercury emissions from Montana power plants would have no impact on mercury deposition in the state.

COMMENTS: A commenter stated that U.S. Environmental Protection Agency (EPA) and Electric Power Research Institute (EPRI) models show that mercury deposition in Montana is virtually entirely due to mercury emissions from outside the U.S.

COMMENTS: A commenter stated that regulation of mercury from EGUs is unnecessary because electric utility generating units (EGUs) in Montana are such a small part of the global picture.

COMMENTS: A commenter stated that the board should make a careful policy decision on the proposed rules that leads to achievable goals and is not based on politics or emotions. There is a lot of public concern about mercury, but the science, particularly the science of cause and effect between mercury and emissions, mercury deposition, fish levels, and human exposure is still evolving.

COMMENTS: A commenter stated that reducing mercury emissions beyond the reductions of EPA's Clean Air Mercury Rule (CAMR) would have no appreciable impact in Montana. The winds in Montana annually carry several hundred tons of mercury across Montana from sources outside of Montana, and about six tons are annually deposited in Montana. Most of this is from sources outside the U.S., which would not be affected by Montana rules.

COMMENTS: A commenter stated that Montana is not an isolated ecosystem and that what goes on around Montana impacts quality of life in the state. Setting a mercury emissions standard that may render it impossible to construct the Highwood Generating Station would do little, if anything, to shield Montana from the presence of mercury in the environment.

COMMENTS: A commenter stated that mercury emissions and deposition in the U.S. have been decreasing for many years in the absence of attempts to reduce emissions from power plants and that there is no credible evidence that controlling emissions from power plants will impact global burdens or deposition of mercury.

COMMENTS: A commenter stated that entirely eliminating Montana power plant mercury emissions would result in virtually no change in the levels of mercury deposition in Montana based on the comparison of mercury deposition scenarios resulting from various emission control strategies, including the existing condition, CAMR Phase I, CAMR Phase II, and total elimination of mercury emissions from all U.S. power plants.

COMMENTS: A commenter stated that, based on modeling conducted for CAMR, the average deposition rate in Montana is approximately 90% of the average deposition rate in the U.S. and that Montana is one of four states with the lowest average rate of mercury deposition. Montana also is one of five states with the lowest percentage of mercury estimated to come from emissions by EGUs.

COMMENTS: A commenter stated that Montana's EGUs account for less than 0.5% of Montana's total statewide mercury deposition and that an evaluation of the impact of the proposed rules on deposition in Montana shows that over 99% of the mercury deposition occurring in Montana without the proposed rules still would occur. Also, approximately 10 times more mercury is deposited within Montana than is currently released from Montana's coal-fired EGUs. Therefore, there will be no meaningful reduction of mercury deposition in Montana as a result of the proposed rules, and there will be no measurable net benefit to Montanans. This is because the mercury emitted by Montana's coal-fired EGUs is almost all (over 90%) elemental mercury, which is not deposited in Montana, and because most mercury deposition in Montana is the result of out of state mercury sources. Emissions of reactive gaseous mercury and particle-bound mercury deposit within a few days and, therefore, mostly, will be deposited within a few hundred miles downwind of the source. Particle-bound mercury emissions are not converted to other forms of mercury and will be removed from the ambient air by deposition.

COMMENTS: A commenter stated that, because roughly half of the mercury emitted globally is in the ionic form, it will be deposited near its source, while the remaining portion of mercury emissions (elemental and particulate) will become part of the global background. Once released into the air, elemental mercury vapor has an average lifetime of about one year. Approximately 98% of elemental mercury emitted by U.S. combustion sources is transported outside of Montana's borders.

COMMENTS: A commenter stated that the board has not been provided credible evidence supporting speculation that mercury emitted from power plants in Montana or anywhere else in the country will accumulate in hot spots of pollution. The board has not been provided evidence for the existence of hot spots or that there is a consensus definition of hot spots or that the existence of hot spots, should there be any, have anything to do with public health. If mercury hot spots are being created in the simple manner implied by advocacy groups seeking further regulation of power plant emissions, then those hot spots should be readily discernible in states that have greater mercury emissions. In turn, the bodies of water in those states should have more mercury contamination and the fish should show greater concentrations of methyl

mercury in their flesh. But, that isn't the case. Fish in Ohio, the state with the third highest volume of mercury power plant emissions (7,109 lbs in 2002) have an average mercury content 12% lower than fish in California, even though Ohio's power plant mercury emissions are 817 times greater than power plant mercury emissions in California.

COMMENTS: A commenter stated that there is no basis for concern that restrictions are needed to reduce higher localized concentrations of mercury deposition in a particular water body, resulting from EGUs in Montana. Based on the analysis of ENVIRON, taking into account the eastern location of EGUs in the state, atmospheric chemistry for emissions that are mostly elemental mercury, the prevailing wind patterns, and the modeling studies, hot spots are not a problem in Montana.

COMMENTS: A commenter stated that the results of the EPA-sponsored Steubenville, Ohio mercury deposition study released to-date match almost exactly the deposition predicted by EPA and EPRI models, thereby validating the models' results both for Steubenville and for the rest of the U.S., including Montana, which showed very little deposition.

COMMENTS: A commenter stated that attempts to reduce manmade mercury emissions in Montana or elsewhere will not measurably improve, or decrease risks to, public health.

COMMENTS: A commenter stated that there is no evidence that mercury concentrations in Montana's water bodies would change significantly as a result of the proposed rules.

COMMENTS: A commenter stated that there is no evidence of mercury causing health problems in Montana as a result of consuming fish from Montana or other U.S. water bodies.

COMMENTS: A commenter stated that virtually none of the mercury deposition in Montana comes from Montana power plants because the mercury emitted in Montana by power plants is almost entirely elemental mercury (greater than 90%), which plays little or no role in in-state deposition. Elemental mercury is very unreactive and tends not to dissolve in water, so it will travel around the globe instead of being deposited locally. Emissions of elemental mercury tend to remain in the atmosphere for about a year, meaning they can travel around the globe many times before being deposited far from the original sources.

COMMENTS: A commenter stated that, based on the results of mercury deposition modeling EPA conducted for CAMR, most of the elevated mercury deposition is occurring in the western part of the state and the least amount of deposition is occurring in the eastern part of the state, where the EGUs are located.

COMMENTS: A commenter stated that the board has not been provided any evidence that reducing mercury emissions will reduce mercury in fish in this country or anywhere else in the world.

Mercury Is a Natural Substance

COMMENTS: Several commenters stated that mercury is a natural substance.

COMMENTS: A commenter stated that the board has not been provided with credible evidence supporting speculation that U.S. power plants account for more than one percent of global mercury emissions. Advocates for enhanced regulation of mercury emissions from power plants all ignore the contribution of natural sources of mercury to the atmosphere, notwithstanding the fact that natural sources make up between 50% and 66% of the planet's mercury pool.

COMMENTS: A commenter stated that, regarding protection of wildlife, etc., according to a National Park Service website, in Yellowstone National Park, the Norris and Mammoth thermal basins produce between 205 and 450 pounds of mercury per year.

Local Deposition and Hot Spots Are Issues That Should Be Addressed by the Rules

COMMENTS: Many commenters stated that local deposition and hot spots of mercury are issues and should be addressed by the rules. A commenter stated that cap-and-trade is based on the assumption that there is no significant local deposition of mercury from coal-fired power plants, however, recent research and case studies show that there are significant local and regional effects. According to Dr. Mark Coen, of the National Oceanic and Atmospheric Administration (NOAA), approximately 46% of mercury emissions from EGUs are reactive gaseous mercury, sometimes called ionic mercury, and particulate mercury. This is a nationwide average, not just in the Steubenville area. These are the emissions of concern for creating hot spots. Cohen modeled deposition of all the different species of mercury under a number of different assumptions and concluded from his modeling that "there can be large local and regional impacts from any given source." In the Steubenville study, they used modeling, starting with the emissions inventory and a knowledge of air chemistry and local meteorological data and local mercury deposition. Then you monitor deposition and the environment and statistically work backwards to identify the sources of that pollutant. They can now use tracer compounds in the mercury deposited to identify the source of the emissions. What they found in the first two years of data collection was that 75% of the mercury wet deposition at the Steubenville site is attributable to local and regional human sources, and two-thirds of the mercury deposited was from coal combustion.

COMMENTS: A commenter stated that walleye in Big Horn Reservoir, on the Crow reservation, have the third highest concentration of mercury of any species of fish found in any reservoir nationwide by EPA, which tests more than 200 reservoirs. This is

a hot spot. We may not have hair samples from people in the southeast part of the state, but, based on the fish studies, we have a mercury problem. Humans absorb 94% to 95% of the methyl mercury in the fish they eat. Some of the people in my community eat fish as part of a subsistence diet, and they cannot afford to buy beef at the IGA. This is not something that is just optional; they cannot elect to just not eat fish for the next 15 years until we get the problem under control.

COMMENTS: A commenter stated that, in states that have reduced their mercury emissions, mercury levels in fish have dropped significantly. Local and regional control has resulted in local and regional declines in mercury concentrations. Seven years after Massachusetts enacted tough new restrictions on mercury emissions from incinerators, the mercury levels in yellow perch in eight nearby lakes dropped an average of 32%. Farther away from these sources, there also were reductions, but only about half as much. In other words, reductions had even more of an impact locally. Statewide, the drop in mercury concentrations was an average of 15%. There was the same pattern for large-mouth bass; there were significant reductions closer to the sources of mercury emissions, but there also was a statewide drop. The Florida Department of Environmental Protection synthesized monitoring, research, and modeling approaches similar to the study at Steubenville, to address the problem of mercury contamination in Florida's fresh water ecosystems. Since the mid-1980s, mercury emissions from incinerators in south Florida have declined about 99% as a result of pollution prevention and control policies. This has been followed in the last seven years by a 60% decline in mercury in both fish and wildlife. Pennsylvania's Department of Environmental Protection found in an eight-year period that mercury levels were 47% higher in areas closer to coal-fired power plants.

COMMENTS: A commenter stated that Dr. Krabbenhoft, the project leader for the U.S. Geological Survey (USGS) national mercury project, has stated that an ice core study in Wyoming shows that human-caused sources of mercury account for 70% of mercury deposition over the past 100 years. This is a study in Wyoming, so Yellowstone has not been the major contributor. He also has stated that local mercury emissions do contribute substantially to the local problem and that he is certain that reducing mercury emissions will reduce the contamination of fish in U.S. watersheds. Dr. Krabbenhoft also referenced the Mercury Experiment to Assess Atmospheric Loading in Canada and the U.S. (METAALICUS). The study is a novel approach of tracking stable mercury isotopes through ecosystems. In this study, it was discovered that, from the time mercury is deposited on a lake to the point that methylation occurs and it enters the food chain, takes only about three weeks. So, if deposition to lakes is reduced, there will very quickly be a decrease in the level of mercury in the food chain.

COMMENTS: A commenter stated that EPA director Stephen Johnson, when questioned about the Steubenville study in January 2006, said that EPA did not have the results back in time for the CAMR rulemaking, but he challenged the states to consider the Steubenville study in rulemaking. So, the latest research and its implications for human health should be considered.

COMMENTS: A commenter stated that EPA research has proven that mercury is deposited locally and that, since the time EPA adopted CAMR, even more research has confirmed local deposition of mercury. The EPA Inspector General found that EPA's senior management had instructed staff to arrive at a predetermined conclusion favoring the utility industry when they prepared CAMR. The report also found that CAMR would not protect children's health. A Northern Wisconsin study found "modest changes in acid rain or mercury deposition can significantly affect mercury bioaccumulation over short time scales." A study found as follows that mercury emissions from the Chicago/Gary urban area contributed significantly to mercury levels in Lake Michigan: "... the spatial pattern of atmospheric mercury and meteorological cluster modeling results from the Lake Michigan Mass Balance Study clearly indicate that sources in the Chicago/Gary urban area were contributing to enhanced Hg in precipitation and Hg (p) concentrations across the entire Lake Michigan area." While additional research is necessary to confirm that mercury emissions are causing downwind hotspots, until that research is funded and completed, the board should adopt rules that protect the public and wildlife.

Studies on Local Impacts Needed

COMMENTS: A couple of commenters stated that studies should be conducted to quantify local impacts of mercury on human and fish populations. A commenter stated that the department should conduct such a study, and another commenter stated that the board should direct the department and the Department of Public Health and Human Services (DPHHS) to initiate a study of mercury levels in Montanans and how these levels relate to distances from power plants in Montana. A commenter stated that studies of the mercury levels in pregnant women and their offspring should be conducted at Colstrip.

Health and Environmental Impacts of Mercury Emissions

COMMENTS: Several commenters stated that the board has not been provided any credible evidence of adverse human health impacts caused by mercury emissions.

COMMENTS: A commenter stated that the board has not been provided any credible evidence supporting speculation that any women, children, or fetuses, have been harmed or have been placed at increased risk of harm as a result of consumption of fish obtained from bodies of water in Montana or other parts of the U.S. For example, advocates of regulation of mercury emissions from utilities cite a link between autism and mercury emissions. If there was, in fact, a causal relationship between mercury emissions and autism, then that relationship should exist throughout the U.S., but it doesn't. Montana is a perfect example. The number of children classified as autistic in Montana increased from 20 in 1992 to 341 by December 2005, a 1,600% increase. But mercury emissions haven't changed significantly. Montana is a rural state with little industry and there is no doubt that coal-fired plants are the single largest source of manmade mercury emissions in the state. There has not been a new power plant built in the state since 1983; and, with some year-to-year fluctuations, overall mercury

emissions have remained relatively steady. Montana's coal-fired power plants lie in the eastern third of the state but the highest rates of autism are found in Ravalli, Missoula, and Flathead counties, in far western Montana and clearly upwind of Montana's major manmade mercury sources.

COMMENTS: A commenter stated that the recent increase in the number of fish advisories in the U.S. is due to an increase in the number of mercury measurements in fish rather than an increase in levels of mercury in fish or in the environment. Increased fish consumption by pregnant women and young children clearly has been associated with improved intelligence and higher mental development scores in children, and increased fish consumption by adults has been associated with a slower cognitive decline. The majority of the Japanese population has mercury levels well in excess of that which is recommended currently by EPA. Also, the blood mercury levels in U.S. women of childbearing age have been shown consistently to fall orders of magnitude below levels considered to be associated with known health effects.

COMMENTS: A commenter stated that the mercury form of concern is methylmercury, which is ingested by humans almost exclusively by eating fish. In contrast, the form of mercury emitted by coal-fired power plants is primarily elemental mercury with some in an oxidized state. People breathe in elemental mercury every day; it is omnipresent in the atmosphere but is present in such low concentrations that it has no adverse effect. Also, it has not been shown that human beings are capable of converting elemental mercury into appreciable amounts of methyl mercury within their bodies. Mercury is not appreciably absorbed through the skin, nor is it found in the atmosphere in sufficient quantities to make inhalation of the substance problematic, even downwind of coal-fired EGUs.

COMMENTS: A commenter stated that the board has not been provided valid, reliable, and generally accepted evidence supporting the speculation that burdens of mercury have increased in the past decade, the past century, or even the past millennium, in fish, in human beings, or in the total environment of Montana, of the United States, or even of the world. Studies of fish and mummies indicate that, if anything, mercury levels either are stable or declining in both fish and human beings.

COMMENTS: Many commenters stated that power plant mercury emissions are harmful to public health and the environment. A commenter stated that mercury contamination not only exacts a high toll on public health, it also impacts the economy. The Harvard Study, published by the Northeast States for Coordinated Air Use Management (NESCAUM), found that strong mercury controls on coal-fired power plants, similar to those originally suggested by EPA, could save nearly \$5 billion annually through reduced neurological and cardiac harm. Also, the costs of lost productivity associated with loss of IQ from methyl mercury exposure to children amounts to \$8.7 billion annually. Of this total, \$1.3 billion each year is attributable to mercury emissions from U.S. power plants. Mercury from U.S. power plants also accounts for 231 cases of excess mental retardation per year, at a cost of \$289 million. Toxic injury to the fetal brain caused by mercury emitted from coal-fired power plants

exacts a significant human and economic toll on American children. It can cost about \$3.2 million to care for an autistic person over his or her lifetime. Caring for all people with autism over their lifetime costs an estimated \$35 billion per year in the U.S.

COMMENTS: A commenter stated that there seems to be a high incidence of birth abnormalities in southeastern Montana. The board should seriously consider the possibility that they are being caused by mercury emissions from Colstrip and should substantially eliminate mercury emissions.

COMMENTS: A commenter stated that mercury is a poison and that one teaspoon of mercury will pollute a 1,000-acre body of water so that the fish are inedible. The rules should require the fossil fuel industry to get in step with the other industries that have removed mercury for years. Montana should be a leader and set an example in the field of mercury standards for our nation, for the world, and, more importantly, for our own Montana citizens.

COMMENTS: A commenter stated that the people of Montana depend upon the judgment and wisdom of the board to protect their health. The board has an opportunity not only to set policy, but to set a precedent that would help other states set policy and allow the U.S. to recapture its role as a leader in the area of human health.

COMMENTS: A commenter stated that we are leaving our children with a terrible burden -- the burden of environmental toxins, including mercury, which need to be sequestered and placed somewhere where they are not going to continue to be a poison for humans. Mercury has been linked to attention deficit disorder, hyperactivity, learning disabilities, developmental delays, behavioral problems, and autism, and we have to limit the amount of mercury in our biosphere. Years from now, boards such as this board are going to be trying to figure out how to sequester all of these tons of mercury in our environment, and it makes no sense to add to it.

COMMENTS: A commenter stated that PPL should be forced to reduce its mercury emissions as soon as possible because somebody is being poisoned as a result of what they are doing. Eight hundred pounds a year of mercury from PPL is not acceptable.

COMMENTS: A commenter stated that mercury is a potent neurotoxin that harms people and wildlife. It can damage the brain and nervous system. It is especially harmful to children and developing fetuses. Six to 15% of women of childbearing age may be exposed to mercury above a safe level, and there is more data coming out now about the correlation between heart attacks in men and mercury exposure.

COMMENTS: A commenter stated that 45 states have issued fish consumption advisories for mercury, and that the concentrations and deposition levels are similar in both the east and the west.

COMMENTS: A commenter stated that the board should adopt strong and predictable emission standards and should not adopt the proposed cap-and-trade provisions. Montana has 420,000 acres of impaired lakes, 1300 miles of impaired streams, and statewide fish advisories for northern pike, lake trout, and walleye. There are additional concerns for aquatic mammals, such as mink and otter. Birds affected by mercury include ducks, geese, and swans, all of which are eaten. Pheasants, grouse, and Hungarian partridge all bio-accumulate mercury and also are eaten. Also, there are birds that are not eaten but that are our “canary in the coal mine” that tell us how our environment is doing, and those include birds such as loons, wading birds, herons, egrets, pelicans, cormorants, gulls, terns, hawks, eagles, and owls. Mercury poisoning of wildlife is insidious; there are no big die-offs, so it is not noticed like impacts to people. There is abnormal egg-laying behavior, impaired reproduction, slow growth of young, tremors, and weakness. Most of the existing problems with mercury in Montana probably are due to historic mining, as well as some natural mercury, but the point is that Montana's wildlife has a mercury problem right now, and we shouldn't aggravate that problem. A recent EPA study in Ohio found that 70% of the mercury was from nearby coal-burning power plants, meaning that coal plants pollute local landscapes. We do not want to create hot spots in Montana and problems for wildlife. Montana should have a clean environment, and the board should adopt the strongest possible rules.

COMMENTS: The Chippewa-Cree Tribe commented that it opposes the coal-fired power plant to be located near Great Falls, due to health concerns for the residents of the Rocky Boys Reservation. The wind blows northeast 92% of the time, so that the reservation would be downwind of the proposed power plant from which mercury will be emitted into the air, fall back to the earth in rain and snow, and accumulate in microorganisms that live in the water and plants eaten by livestock and wild game. There are many streams and dams on the reservation that many of the residents of the reservation fish and hunt for wild game on a regular basis for consumption, and the effects of mercury on men, women, and children are highly documented.

COMMENTS: The Montana Public Health Association (MPHA) commented that the board should protect the public health of the most vulnerable Montanans, infants and children, by requiring coal-fired power plants to control mercury emissions, with no cap-and-trade. Mercury pollution is a major public health issue. Mercury poisoning has become the lead poisoning of yesteryears. Mercury emissions include extremely toxic substances that, in minute amounts, can chemically contaminate infants' and children's brains. The exposure of a developing child to mercury may well translate into lifelong impacts on brain function. EPA has stated that one in six women of childbearing age have mercury levels that are toxic to the developing fetus. In Montana, this means that as many as 1,822 babies of the 11,045 born each year are at risk for developmental problems due to mercury exposure while in the womb. This will negatively affect our children's educational achievement, economic performance, and income. If only 10% of these 1,822 babies born each year need special education, at a cost of an average of \$5,900 per year, the cost for Montana would be \$12,900,000 per year, according to one estimate. The Center for Children's Health and the Environment at the Mt. Sinai School

of Medicine concluded that exposure to mercury causes lifelong loss of intelligence in hundreds of American babies born each year and that this loss of intelligence exacts a significant economic cost to American society; a cost that is estimated to be in the hundreds of millions of dollars each year. In a study conducted by the Northeast States for Coordinated Air Use Management, in collaboration with the Harvard School of Public Health, the participants quantified how decreasing mercury emissions from coal-fired power plants would result in less mercury exposure and, consequently, I.Q. point gains for the population of children born each year. According to this study, a 70% decrease in coal-fired power plant mercury emissions by 2018 would result in benefits to society of between \$119 million and \$288 million every year. There is an economic benefit to decreasing mercury emissions. A PPL representative says that the proposed plans to protect our infants and children from mercury emissions will hurt Montana power plants. Last year, four of these power plants netted over \$1 billion. Installation of equipment to control mercury emissions from these plants is estimated to cost about \$4 million. It is obvious PPL's interests are in corporate profits and not in the welfare of Montanans. The membership of MPHA is counting on the board to require Montana's coal-fired plants to control mercury emissions, with no cap-and-trade, and protect public health.

COMMENTS: A commenter stated that the National Education Association has stated that, to reduce the prevalence of mercury contamination as a factor in learning disabilities, we need to reduce mercury in fish and the only way to do this is to reduce the amount of mercury released into our environment. Because coal-fired power plants are our nation's biggest mercury emitters, we cannot solve this problem without reducing mercury emissions from these facilities. Our children and grandchildren are going to inherit our world. We should take precautions and not leave the poison. People need to take responsibility and clean up after themselves.

COMMENTS: A commenter stated that mercury is an extremely dangerous neurotoxin that can cause autism, ADD, cardiac disease, especially for men, hearing impairment, and death. Because it is so dangerous to humans and animals, regulation should not be put off until a later date; it should begin immediately. The rules should be strict and provide for inspections, strong enforcement, and penalties for infractions and should not allow buying and selling of pollution credits. The technology exists to meet the standards. The expense is probably higher to start with, but, compared with the profits the companies have been making and the improved health of the state, this is a minor consideration.

COMMENTS: A commenter stated that, according to the United Nations Environmental Program, 70% of worldwide mercury emissions now are caused by human activity, and coal plants are the largest single source of manmade mercury contaminating our environment, accounting for about 48 tons of mercury in 1999, the last year it was measured. Coal plants are poisoning our planet and they need to be regulated. Mercury poisoning of fetal cells during embryological and fetal development, passed through from the mother, prevents normal neurological development, creating a lifelong deficit. The Harvard Center for Risk Analysis calculates between .5 and 1 point I.Q. loss per one part per million of mercury in the hair samples of women, which is why

mercury is so devastating to children. The National Academy of Science has stated that neurological change to children exposed to mercury will result in increased numbers of children requiring special education and remedial classes and that mercury exposure may also continue in infants through contaminated breast milk. At the University of Texas, Dr. Claudia Miller reported a 17% increase in the rate of autism and a 43% increase in special education services for every thousand pounds of environmentally released mercury. Mercury also has an adverse impact on the immune system in people of all ages. At high concentrations, neurological damage can occur in people of all ages exposed to mercury. While there has been much discussion of methyl mercury from consumption of fish, mercury also is a toxin as a metal and as a salt, which is where the expression "mad as a hatter" comes from -- mercury salts used in the 1800s in making felt hats. If we fail to control mercury, we are going to have another syndrome in the 21st century, and it is going to be "mad as a mother."

COMMENTS: A commenter stated that, in a Finnish study, 1871 men were followed over an average duration of 13.9 years. Through linear regression analysis and other complex, but well-accepted, mathematical and statistical methods, the study found that a person in the top third of hair mercury content was 1.7 times more likely to have cardiovascular disease, 1.6 times more likely to die of a heart attack, and 1.4 times more likely for all-cause death. This is not cause and effect; it is an association, but these numbers, 1.6 to 1.4, are high numbers for medical research. Regarding statements that there is no credible evidence, a certain cause and effect relationship cannot be established without exposing real people to mercury and determining the outcome, and this will not be done. However, the information about mercury toxicity is reminiscent of the path the medical community took concerning smoking 50 years ago, and we are losing 440,000 Americans per year from smoking.

COMMENTS: A commenter stated that the medical literature is full of studies of the potential impacts of mercury exposure, both prenatal exposure and effects in adults, particularly cardiovascular effects in men. From this body of data, it can be inferred that there are men, women, and children in Montana right now who are being affected by mercury exposure. Children are being affected simply because their mothers ate fish while they were pregnant, and these children are being born with an unnecessary disadvantage that will affect them throughout their lives. It is not correct that what the board does will not affect local impacts. For the board, what is relevant are Montana emissions, because that is what the board can work on today, and reducing emissions here in Montana will be effective in affecting public health. About 12 years ago, the Florida health department issued fish consumption advisories for the Everglades because the levels of mercury in fish were so high, and they banned certain types of fish. They made extensive efforts over the last 12 years to reduce local sources of mercury, particularly mercury from incinerators, and they reduced mercury emissions by 99%. When they retested the fish and wildlife, there were 60% and 70% lower levels of mercury in the tissues of those fish just 10 to 12 years after reducing emissions. So, local mercury emission control can lower the effects in fish and wildlife here in Montana. We cannot wait 12 to 15 years for these rules to take effect because, by that time, we

could have an effect. We are already decades late in imposing rules to correct the problem that we have today.

COMMENTS: A commenter stated that toxins in the environment, including mercury, may be a trigger in developing autism in children. Autism used to be considered a rare disorder, affecting 1 in 15,000 children, then it increased to 1 in 5,000, 1 in 1,000, and, now, 1 in 166. So, the cause has to be something within our environment because we know it is not strictly genetic. A genetic predisposition may exist, but there is an environmental trigger that is causing these children to develop this lifelong developmental disability.

COMMENTS: A commenter stated that public health studies indicate that mercury and methylmercury are public health threats and that the data on the public health impacts of mercury is overwhelming. Eight percent of women in the U.S. have concentrations of mercury in their blood at concentrations higher than EPA considers safe, placing more than 600,000 newborns at risk each year. Mercury readily crosses the placenta and newborns have higher levels of mercury in their system than their mothers. Prenatal mercury exposure is correlated with lower scores in neurodevelopmental screening, especially for the linguistic pathway. A study of methylmercury poisoning in Iraq found that mercury readily passes from mother to fetus and later can pass to an infant through a mother's milk. Some children demonstrated gross impairment of motor and mental development. The neurotoxic effects from exposure to mercury in the womb are irreversible. Mercury poisoning has led to hypertension in children. Fetal exposure to methylmercury is associated with cardiac abnormalities in children. Mercury interferes with development of the central nervous system, particularly in the prenatal stage. Chronic exposure to mercury can lead to visual impairments, hearing deficits, and motor and mental disturbances. The National Academy of Science concluded that the neurological damage to children exposed to consumption of fish contaminated with mercury, during their mother's pregnancy, will result in an increase in the number of children who have to struggle to keep up in school and who might require remedial classes or special education. Mercury has profound, toxic effects upon the immune system as it inhibits most lymphocyte functions that are essential to a functioning immune system. Mercury has also been linked to an increase in allergic reactions.

COMMENTS: A commenter stated that the board should adopt the board's proposed rules, which are a good first step toward safeguarding our air from emissions from coal-fired power plants. The board rules would balance power generation with environmental protection and ensure safe development of the largest known coal reserves in the world. Montana must not be taken advantage of by allowing the pollution to stay here while the electricity moves out of state. More stringent standards than those of EPA would benefit the health of Montanans and the environment. The board should not accept the EPA standards, which science shows will harm us

For Adoption of CAMR and/or Emissions Trading

COMMENTS: Many commenters stated that CAMR will protect Montana, that the board should adopt a cap-and-trade program, that the board does not have evidence that the proposed rules would benefit public health or the environment, that the proposed rules would not change mercury deposition in Montana, and/or that the proposed rules would not have a measurable effect in Montana beyond the reductions achieved under CAMR.

COMMENTS: A commenter stated that EPA promulgated CAMR because every EGU cannot achieve the same emission reductions by 2014.

COMMENTS: A commenter stated that the U.S. contribution to global mercury emissions is about three percent, that one-third of those emissions come from U.S. power plants, and that U.S. power plants emit one percent of global mercury emissions. Under CAMR, mercury emissions will continue to drop significantly, and a full cap-and-trade program will ensure that U.S. mercury emissions continue to decline.

COMMENTS: A commenter stated that the rules should be based on science rather than emotion. On July 5, 2006, in Pediatric Magazine, McGill University released news of a study that dismissed the existence of a link between mercury-based immunizations and autism. It would be a mistake for the board to base its decision on a link that does not exist, and the board should adopt CAMR rather than the proposed rules.

COMMENTS: The board received two petitions to the governor, the department, and the board, signed by residents of Sidney and the Colstrip area, requesting that the board adopt CAMR and not adopt any further restrictions.

COMMENTS: A commenter stated that the board should not adopt rules more stringent than CAMR without published quantitative evidence that there would be a benefit from more stringent rules. It will take a huge effort for energy companies just to meet the requirements of CAMR, and it would be impossible for them to meet more stringent requirements.

COMMENTS: A commenter stated that 92% of mercury emissions in the U.S. comes from other countries, and only 1% comes from coal-fired power plants. Due to high natural gas prices and high costs for all energy, it makes sense to use coal to produce electricity. Montana has 120 billion tons of coal reserves, which is more than any other state. To allow use that coal, the board should adopt CAMR.

COMMENTS: A commenter stated that CAMR is appropriate for Montana and that the proposed rules will impose substantial additional costs to Montanans, in general, and to the Colstrip facility in particular.

COMMENTS: A commenter stated the federal government has taken the best available research to date and adopted stringent guidelines and an implementation schedule in CAMR, based on the best available information. Ongoing research is being

conducted on mercury, as evidenced by the Department of Energy's (DOE's) June 2004 request for proposals for assistance in conducting research on mercury control and mercury measurements. We do not have all the answers yet. I currently have more mercury emissions in my body from the three fillings that I have in my head than OSHA standards allow. The tox facts website addresses the mercury exposure pathways, which include eating fish or shellfish contaminated with methyl mercury, breathing emissions from spills, incinerators, and industries that burn mercury-containing fuels, dental work, medical treatments, breathing contaminated workplace air, skin contact during use in the workplace, exposure to chemical industries and other industries that use mercury, as well as practicing rituals that include mercury. The Montana Department of Fish, Wildlife & Parks' 2000 Montana fish consumption advisory states that contaminant levels, primarily levels of mercury and PCBs, found in Montana's fish were low and are considered a hazard only if consumed very frequently. There have not been any known cases of illnesses from eating fish caught in Montana. Mercury is widespread in the environment and can be found in low concentrations in most soils and rocks. These naturally occurring deposits are the most probable cause for elevated levels of mercury in fish in Montana. If we are concerned about local deposition, then why are we not testing the people who have lived near, and worked at, a coal-powered generation facility, like the Colstrip facility, the last 20 years? Montana should not be among the 20% of the states with requirements that are more stringent than the federal regulations. We should be among the 80% of the states with requirements that are consistent with federal regulations. Montana needs the federal cap-and-trade program, and it is appropriate for Montana.

COMMENTS: A commenter stated that mercury problems are worldwide and are coming into Montana, whether we want them or not, and 1% of mercury emissions worldwide come from coal-fired power plants, making the amount of Montana emissions small. This amount becomes minute after reductions of 70% under CAMR. The difference between 70% and 90% reduction is not that great. The federal government went through a great number of studies to come up with its number, and I feel more comfortable with that than I do with the 90% control the board is proposing, because I do not know what is behind that number. We still are going to be subject to generation in surrounding states that will compete with Montana. We are not going to be competitive if we are at 90% and they are at 70%. We have a large amount of coal deposits, and we have great energy opportunities. We all want the coal developed, and we all want environmental conditions as good as possible. It is up to the board to come up with a middle ground so that we can have the development we need as well as the clean air, keep our kids at home, keep the jobs, and keep the wage scale high. Energy development speaks to all of that.

COMMENTS: A commenter stated that Montana, more and more, is being relegated by special interests to a playground status for a few privileged outsiders. Montana is being set up to export all of our resources, including our kids, to benefit either east coast or west coast economies or a world market. The board should adopt mercury rules based on science and guaranteed emission standards. Currently, many

manufacturers are willing to guarantee 1.5 TBtu, and that should be the immediate standard until industry is capable of guaranteeing greater reductions.

COMMENTS: A commenter stated that rules beyond CAMR would be costly, difficult to implement, and would not result in a coordinated federal program.

COMMENTS: A member of the Montana legislature commented that the proposed rules were rejected during the 2005 legislative session and that the board should adopt CAMR. If additional requirements are needed, they should be introduced as legislation and discussed, debated and voted on by the legislators selected by the people to make these types of decisions.

COMMENTS: A commenter stated that the federal program has as its goal to allocate 298 lbs of mercury to Montana facilities by 2018, with the caveat of trading emissions. With a few caveats, the proposed rules attempt to achieve this same goal but are overly prescriptive. There does not appear to be a clear rationale justifying the complications of the proposed regulatory program or the uncertainties and substantial costs being imposed on the regulated community.

COMMENTS: A commenter stated that CAMR is the preferred approach to reducing mercury emissions, based on its emission limits, the timeframe within which to achieve those limits, and the flexibility of trading emission allowances should the limits be difficult to achieve.

COMMENTS: A commenter stated that unrestricted participation in the proposed national cap-and-trade program is necessary for the proposed rules to work to 2018 and beyond. The emission standard for existing units that will be required by the Montana mercury budget is very low, and cannot be achieved using current technology. As a result, the state must provide EGUs with a compliance safety valve – the ability to fully participate in the national cap-and-trade program established by EPA in CAMR by purchasing mercury allowances on the national market to address the insufficiency of allowances available in Montana. Without the ability to purchase needed allowances on the national market, investors in new projects will not build in Montana.

COMMENTS: Great Northern Power Development, LP (“Great Northern”) commented that it has spent over \$6 million on the Nelson Creek Power Project and would like to be able to continue making a substantial investment in Montana through the development of this project. When Great Northern commenced planning and development for the project, there was no proposed mercury rule. As a result of the petition to the board to adopt a mercury rule, and subsequent board action, Great Northern has had to reconsider the economics of developing a power plant at the site. Without a cap-and-trade program, there are insufficient allowances allocated to Montana to allow construction of any new facilities either not currently permitted or in the permit process. If the proposed rules do not provide for a cap-and-trade program, the Great Northern Nelson Creek Power Project is dead, therefore, the board should provide for full participation in the federal cap-and-trade program.

COMMENTS: Montana-Dakota Utilities Company (MDU) commented that the board should adopt CAMR. The MDU Lewis and Clark station has a similar configuration to the Colstrip plant, with a wet particulate scrubber. Controlling such a facility is fairly difficult. Eighty percent control could be possible, but anything over that would involve a significant rebuild of the facility. Minnesota, which is a non-coal producing state, recently implemented an emissions control law that is more stringent than CAMR. However, that law requires a plant-specific technology selection and a review by the Public Utilities Commission to determine whether the costs are justifiable. Specific technology selection is important, and MDU is opposed to any firm limits. Firm limits can really put companies in a box; there needs to be a fallback position. An achievable technology selection process would be more justifiable. Neighboring coal-producing states, Wyoming and North Dakota, plan to adopt CAMR.

COMMENTS: PPL-Montana commented that, because of the uncertainties related to control technologies and what Colstrip can accomplish and the variability of mercury in the coal, trading would be required to ensure that PPL can meet the proposed limits, not only to 2018, but also beyond that date because of the very high level of control required and the unknowns in meeting that high percent removal. Trading would allow Colstrip to manage technology variables as Colstrip strives for compliance with the limits.

COMMENTS: A commenter stated that there is a long history of emissions trading providing environmental and economic gains. Experience over the past decade has shown that a well-designed and well-implemented cap-and-trade program can achieve air emissions targets at lower costs than the traditional command and control approach. It provides an opportunity to achieve cheaper and more environmentally secure environmental regulations. It provides incentives for different kinds of facilities to, as a group, apply the least-cost way of achieving a different target. So the trading mechanism allows both buyers and sellers to gain. In some cases, they are sharing the gains in the trade and reducing the overall costs of meeting the program. The government does not have to determine which is the low-cost option and which is the high-cost option. All of the facilities have an incentive to understand what their costs are and to participate in the trading program.

COMMENTS: A commenter stated that mercury emissions are well-suited for a national emissions trading program because the information suggests that emissions are important over a broad area. That means that the emissions traded are equivalent in terms of environmental impact. Also, trading works where there are large differences in the cost of control. If there is not much difference in the cost of control, there is not much gain in trading. Most of the evidence about mercury suggests that there is a lot of difference in the cost of controlling mercury across different sources, so that the gains from trading would be substantial. Trading is a major advantage when there is a lot of uncertainty about costs. If a facility is not quite sure what the costs are, trading provides the flexibility to avoid a situation where the facility needs to meet a particular control requirement regardless of cost. If the cost turns out to be much more expensive,

trading provides the option of purchasing allowances rather than engaging in something that is expensive. The price on allowances provides incentives for low-emission technologies. There is no incentive for a facility to go below its emission limit unless there is an emissions trading program.

COMMENTS: A commenter stated that, from an economic and environmental perspective, Montana would be better off if its plants are able to take advantage of emissions trading. Studies have shown that overall costs of a program are reduced by about 50% with emissions trading across sources and across time, with the possibility of banking, which results in additional cost savings. Trading also has spurred the development of new technologies, which is important for mercury. Full interstate trading, including provisions for buying and selling, is likely to result in significant cost savings in Montana, and banking provisions would result in earlier emission reductions. Requiring that pollution control investments be made in Montana would increase the cost without achieving any environmental benefit.

COMMENTS: A commenter stated that the problem with restricting trading to Montana is that, with a relatively small number of facilities to trade with, the cost-saving advantages of trading are not present. If every state did that, there would not be 40% to 50% cost savings, and the program would be much more expensive. Preventing facilities from taking advantage of lower cost control options outside the state would be a waste of money.

COMMENTS: A commenter stated that NERA's analysis suggests that it would be cost-effective for the Corette plant to reduce mercury emissions by approximately 75% from current levels if Corette is allowed to fully participate in the CAMR trading program, under the allowance price predicted by EPA. These reductions would be achieved by 2015, with approximately a 55% reduction relative to current levels in the period 2010 to 2015. Under the proposed Montana rules, a reduction of approximately 89% would be necessary. NERA's results show that this additional 14% reduction would cost approximately 66% more per pound than the first 75% of reduction achieved, with \$18,000 per pound under the cap-and-trade program, compared to \$30,000 per pound under the Montana rules. Not only are substantial reductions in Montana mercury emissions likely if interstate trading is allowed as under CAMR, but these reductions would be much less costly on average than the additional 14% required under the proposed Montana rules. Allowing interstate trading for the Corette facility would result in a significantly more cost-effective regulatory solution for mercury emissions in Montana.

COMMENTS: A commenter stated that, based on allowance price projections by EPA and information from URS Corporation on the cost of controls, the Colstrip facility is expected to make substantial mercury emission reductions under CAMR. In the early years of the program, it is expected to be the net seller of allowances. In the later years of the program, beginning in 2015, Colstrip is expected to be a net buyer of allowances. Under CAMR, emissions from Colstrip are projected to be reduced by about 73% from baseline levels in the early years of 2010 through 2014 and by about 77% in the later

years, beginning in 2015. The proposed Montana rules would reduce emissions from Colstrip by about 10% more than under CAMR in the early years and by only about 6% in the later years. There would be no difference in national mercury emissions between the proposed Montana rules and the national cap-and-trade program because of the national cap. Cost savings at Colstrip from participating in interstate trading are expected to be high because interstate trading avoids the need to install very expensive controls to achieve the last few pounds of emission reductions beyond reductions achieved by more cost-effective technology. These last pounds require technology that is estimated to cost more than \$100,000 per pound, in contrast to a projected allowance price of less than \$50,000 per pound.

COMMENTS: A commenter stated that mercury control comes in a variety of different shapes and is rapidly developing. Tremendous progress has been made by a number of companies over the years, so it is a challenge for the board, as policymaker, to develop policy at the same time the technology is developing. Progress has been made, and a great deal of investment has been made in control technology, resulting in better performance and lower cost. It is regulations that drive investment and commercial competition for lower costs. Because of the Clean Air Interstate Rule (CAIR), there have been significant advances in technology so that we are likely to get much more mercury removed than initially anticipated. In a trading program, the credits will be readily available and relatively inexpensive because of improvements in the technology. Unfortunately, those improvements do not apply to western coals because the chemistry is not right.

COMMENTS: A commenter stated that the rules should not forestall future energy development in Montana, so at least a limited cap-and-trade component that allocates mercury allowances in an equitable manner to existing facilities and new development should be included as a safety valve. Any left over allowances that are not allocated should be available to new development on a first-come first-served basis, but, the department could not allocate allowances in excess of Montana's budget.

COMMENTS: A commenter stated that emission trading programs can encourage additional emission reductions and earlier compliance with emission standards. However, this happens only if the trading program is paired with an underlying regulatory structure that establishes appropriate emission limits. Without that underlying regulatory structure, emission trading programs only allow old, dirty plants to stay that way.

COMMENTS: A commenter stated that adopting the proposed rules would conflict with any Montana option for developing and implementing a Montana-specific mercury emission cap-and-trade program.

COMMENTS: A commenter stated that the feasibility of meeting the extremely stringent requirements of the rules has not been demonstrated and that it is not clear that the rules would provide any benefits beyond the reductions of CAMR. However, the costs of the Montana rules could be significant in terms of the lost potential for

establishment of future coal-fired power generation within the state, which is likely to shift to other states that have adopted the technologically and economically feasible CAMR standards without additional constraints.

COMMENTS: A commenter stated that ENVIRON used EPA's Community Multi-Scale Air Quality (CMAQ) model to evaluate the impacts in Montana of reductions in mercury emissions from Montana's EGUs. Additionally, ENVIRON made the most conservative assumptions in preparing the model, including assuming that the Colstrip plant, which accounts for a large majority of mercury emissions in the state, would not make any reductions under CAMR but would, instead, purchase allowances as its sole means of compliance. As discussed in the National Economic Research Associates (NERA) report, based on projected allowance prices and control costs, it is expected that Colstrip ultimately will make substantial mercury reductions under CAMR, so that the impact of the additional restrictions in the Montana proposal would be substantially less than ENVIRON shows in its modeling. The results of ENVIRON's modeling show the proposed 90% capture mandate would achieve, at most, no more than a 0.25% reduction of total mass deposition across the state.

COMMENTS: A commenter stated that, if there are requirements for control technology and emission limits on all EGUs in addition to cap-and-trade, cap-and-trade would not detract from the protection offered by the emission limits.

COMMENTS: A commenter stated that the rules should not include banking but should include limited trading and coordinated multi-pollutant controls.

CAMR Does Not Preclude Adoption of More Stringent State Rules

COMMENTS: A commenter stated that CAMR does not require Montana to participate in the federal cap-and-trade program. Under CAMR, states may choose to not participate in the optional cap-and-trade program and obtain equivalent emission reductions from other means. Also, states may incorporate a mechanism to implement more stringent controls at the state level with their allowance allocation methodology. States also have the flexibility to not participate in the trading program or require more stringent mercury emission reductions. States that do not participate in the trading program can establish their own methodology for meeting state mercury budgets by obtaining reductions from affected utility units. Moreover, states remain authorized to require emission reductions beyond those required by the state budget, and nothing in CAMR precludes the states from requiring stricter controls and still being eligible to participate in the mercury emission trading program. Other states are implementing stricter standards than CAMR with and without the trading aspect.

Against CAMR and/or Emissions Trading

COMMENTS: Many commenters stated that emissions trading is not appropriate for toxic pollutants or neurotoxins, such as mercury.

COMMENTS: A commenter stated that cap-and-trade is a bad idea for something as hazardous as mercury, and it is almost a moral obligation to use the best available control technology. The public pays the cost of having mercury in our systems, and it is going to be the public that pays the cost of getting it out or reducing it, which is appropriate. We recognize that our resources are here and they should be wisely used. We understand the desire to have more independence in this country for our energy needs. But, the degree the public will accept more coal development in the state will hinge directly on the degree to which we believe our health and safety are being protected.

COMMENTS: A commenter stated that there is a moral and medical responsibility to be as diligent as humanly possible to put into effect rules that not only protect the citizens of Montana from the electric glut of our nation, but that ensure our neighbors do not suffer from shortsightedness on our part. The proposed rules are inadequate in intent and substance. The lag time for implementation is far too long. The hazards are known, the technology exists, and the concern for animals and human health is real and present. The board has a responsibility to implement its mission with incredible due diligence, and the cap-and-trade and implementation proposals do not accomplish this. We have the right and the ability to minimize the impact of large-scale coal development on human health and safety for generations, and we have a responsibility to exercise that to our fullest ability.

COMMENTS: A commenter stated that the board should require all plants to have a department-approved plan for limiting emissions to 0.9 lb/TBtu by 2010 but that the board should not adopt a cap-and-trade program. Delaying mandatory reductions would postpone an essential and unavoidable step toward a solution, while compounding negative health impacts. Rather than postponing compliance by investing in other states' cleaner air by purchasing credits, that money should be invested in emission control technology in Montana. Allowing plants to buy pollution from a cleaner state, in lieu of implementing more stringent controls, needlessly puts Montana communities at risk.

COMMENTS: A commenter stated that cap-and-trade is inappropriate for toxic pollutants like mercury that may create hot spots, and cap-and-trade would only transfer or aggravate pollution at another site.

COMMENTS: A commenter stated that mercury pollution is a local, national, and global problem. Reducing mercury pollution on the state level may encourage other states to do the same.

COMMENTS: A commenter stated that the board should adopt more stringent mercury standards than the standards in CAMR.

COMMENTS: A commenter stated that, because CAMR does not address localized impacts of mercury emissions or apply any specific limits on emissions from individual facilities, CAMR does not sufficiently protect Montana from exposure to

mercury hot spots. To reduce localized exposure to mercury, the rules should require that all EGUs have equipment installed that can control mercury. The rules also must set reasonably achievable emission limits for all facilities.

COMMENTS: A commenter stated that, to diminish the burden of disease in current and future generations of Montanans, to mitigate financial hardship on our local taxpayers, and to provide an example of proper ethical behavior, we owe it to our grandchildren to control mercury emissions as much as possible.

COMMENTS: A commenter stated that Montana has a history of outsiders extracting our resources and leaving a damaged environment behind. Now, we have an opportunity to require them to keep our state as uncontaminated as possible.

COMMENTS: A commenter stated that, if the board adopts a cap-and-trade provision, industry should be required to post bonds for, and be absolutely liability to, any person who suffers from any malady where mercury is directly or indirectly involved. Further, the board should provide that, if a financial cap is placed on damages, any right to trade becomes void from inception.

COMMENTS: A commenter stated that cap-and-trade regarding mercury emissions is unethical and morally unconscionable. It is morally wrong to inflict such a widespread and long-lasting health hazard on human and animal lives for generations to come. Mercury is a toxin that has a cumulative effect within our bodies and has the capacity to inflict lasting ecological damage to our planet.

COMMENTS: A commenter stated that the rules proposed by the department are inadequate in intent and substance. The lag time for implementation is far too long. All power plants, present and proposed, should utilize BACT and not be allowed to “buy” the leeway to release toxins into our atmosphere through a cap-and-trade provision.

COMMENTS: The Northern Cheyenne Tribe commented that technology exists that can control most of the mercury pollution at the coal-fired power plants and that this needs to be implemented to protect public health and the environment. Cap-and-trade should not be considered because it would allow other power plants to buy and trade mercury emissions that could allow the Colstrip facility to increase its emissions and even more affect the Northern Cheyenne Reservation. The Northern Cheyenne Reservation is only 13 miles downwind of Colstrip, and the Northern Cheyenne people and their environment will be greatly impacted if the rules are adopted as proposed. The department should address local mercury hot spots. The cap-and-trade program has never been used before for a toxic air pollutant and will place public health at risk. EPA's own inspector general found that the cap-and-trade program could lead to toxic hot spots. The board should adopt rules to make these plants clean up and protect human and environmental health on the Northern Cheyenne Reservation.

COMMENTS: A commenter stated that the department's proposal is incredibly complicated, and that a system is needed that is fair, predictable, and simple. Cap-and-

trade fails on every point. It is legally flawed, economically flawed, and technologically flawed. It does not protect public health and 12 years is too long for the public to wait for real public health protections. The federal cap-and-trade program fails to provide essential protections to people who live downwind of EGUs.

COMMENTS: A commenter stated that the really disturbing part of the cap-and-trade program is the banking part. When a source achieves early control, it may bank emission credits. That is why, when questioned about the 15-ton national limit in 2018, EPA admits that the national limit probably will not be met until sometime after 2028 because of the banking provision.

COMMENTS: A commenter stated that one of the principles of cap-and-trade is early controls are rewarded, and banking is supposed to reward early controls. However, the mercury reductions for 2010 are just co-benefit controls that the utilities in the east are going to have to achieve under CAIR. So, they are doing nothing to control mercury.

COMMENTS: A commenter stated that the federal Clean Air Act states that air pollution prevention primarily is the responsibility of states and local governments. EPA did not do it, so it is our responsibility to do it.

COMMENTS: A commenter stated that allowing one plant to exceed the emission limit while another plant reduces its emissions just means that children in one area are going to be more poisoned than another, and we are letting the companies decide where that is going to happen. It is unethical, it is unacceptable for Montana, and, given the number of lawsuits, it is very likely to be found to be illegal. Other states and local governments are opposing interstate trading.

COMMENTS: A commenter stated that cap-and-trade is an averaging approach, and, when you take the average of average averages, you lose some essential geometry. In the Great Falls area, the wind is going to go in a lot of different directions. If you have a point source of mercury and a lot of other pollutants that is located not too far away, this is the closest population that will be affected. Average of average averages misses some essential points of the geometry.

COMMENTS: A commenter stated that cap-and-trade may be good for the polluter's bottom line, but their neighbors are the losers, whether the rules allow interstate trading or only intrastate trading. But, it would be much more detrimental to Montana to allow interstate trading. This would allow Montana to become the mercury dumping place for the region or the nation. Our plants could continue to be dirty while those in surrounding areas would have to clean up. We do not even benefit from the power generated, as most of it is exported. It would be win/win for everyone else and lose/lose for Montana.

COMMENTS: A commenter stated that Montana already has mercury advisories for its streams and lakes. Not only does this sully our pristine image and take some of

the fun out of fishing, it creates real problems for our Native American peoples whose heritage and right it is to fish for sustenance. They may need to fish to provide a large portion of their family's protein needs. By doing so, they are endangering the next generation. Even if that were not the case, the very fact that fish are polluted is an affront to them, and it should be an affront to us, as well, when polluters tell us they cannot afford to clean up their effluent. Why should we in Montana wish to make it easier on polluters to operate their businesses in Montana? Can we not learn the lessons of history? We can create clean and green industries and businesses. We do not need to rely on greedy corporations to provide for us as if we were helpless to envision or dictate our own destiny. Our state constitution guarantees us the right to preserve treasures such as our land, water, forests, and big sky. The board is entrusted with the ability to tell polluters that we have drawn the line and, in order to do business in Montana, they must clean up. Catch a better vision for Montana, and it will be clear to you that a cap-and-trade rule for mercury pollution is unthinkable.

COMMENTS: A commenter stated the department has opted to include interstate cap-and-trade in its proposal because it does not want to preclude future energy development but that this assumes that future energy development in Montana needs to be in the form of traditional pulverized-coal facilities. An energy future that includes additional coal-burning facilities threatens Montana's air, water, and public health. It is also out of sync with the governor's vision for Montana's energy future, which is to use the newest and cleanest technologies for new coal development. We can have a clean environment, we can create jobs, and we can create economic development. We do not have to rely on traditional, dirty, pulverized-coal facilities.

COMMENTS: A commenter stated that cap-and-trade will not work. Some research papers have shown fallout to be local and to heavily adversely affect the locale at which the emission is occurring.

COMMENTS: A commenter stated that everyone is affected by mercury pollution. Little children and pregnant women probably are more heavily affected than anybody. Do we base our societal values on simply making money regardless of what it does to the rest of us? Cap-and-trade will just encourage the building of more of these facilities, which will produce more and more pollution. There is ample evidence that there is a great local effect. It is not just effects from outside the area. Cap-and-trade is a crazy policy.

COMMENTS: A commenter stated that Montana should join the 15 plus states and several municipalities in going beyond CAMR.

COMMENTS: A commenter stated that there is so much flexibility in the rules that they bend over backward to accommodate an industry that is making money hand-over-fist. It is inappropriate to have a cap-and-trade program, especially, when the rules already provide so much flexibility to this industry. The proposed rules would allow plants to profit from selling credits out of state and allow plants in other locations in this country to increase their mercury emissions, and that is wrong. We would be exporting

pollution, and it is wrong to poison people in Montana, Alabama, or anywhere. If we have the ability to control mercury, we should do it, and we should not export our problem to somebody else in the name of economic gain.

COMMENTS: A commenter stated that using credits purchased from other areas, which would allow localized accumulation in Montana, would compound our already existing problem. This practice creates an investment in pollution, rather than our future. Banking credits until the federal deadline is reached in 2018 allows the industry to invest in pollution well into the future, avoiding limits long past the deadline.

COMMENTS: A commenter stated that, if trading as a safety valve is necessary, only instate trading should be allowed, to reduce local emissions.

CAMR Violates the Federal Clean Air Act

COMMENTS: Several commenters stated that CAMR violates the federal Clean Air Act (FCAA).

COMMENTS: A commenter stated that CAMR does not meet the requirements of the FCAA and is based on the federal government's sudden disregard for the ample scientific evidence of mercury's health and environmental impacts and of the availability of cost-effective treatment technology.

COMMENTS: A commenter stated that the board should opt out of the federal mercury control program and adopt more protective standards, because EPA's CAMR violates the FCAA. There was extensive scientific evidence showing that power plants are the number one contributor of mercury emissions in the U.S. Based on that, EPA determined it was necessary and appropriate to regulate EGUs under Section 112 of the FCAA, providing for maximum achievable control technology (MACT) standards. When EPA delisted EGUs from Section 112 and promulgated CAMR under Section 111, it did not make the necessary showing because it could not be made. The only way EPA could have removed EGUs from the Section 112 list was to show that emissions from EGUs would not exceed a level that is adequate to protect public health with an ample margin of safety and no adverse environmental effect would result from emissions of any EGU. The problem with EPA choosing to not regulate EGUs under Section 112, as required by the FCAA, is that it ensures CAMR cannot stand up in court. Also, EPA has no authority to create a cap-and-trade program under either Section 111 or 112 of the FCAA. CAMR fails to satisfy even the more flexible requirements of Section 111. Most notably, in promulgating CAMR, EPA ignored the best available mercury pollution control technology, ACI, which would allow for much greater reductions in mercury emissions on a much faster timeline than is provided for under CAMR. Thus, contrary to the FCAA, CAMR does not establish standards that "reflect the degree of emissions limitations" that are now "achievable through the application of the best system of emission reductions." Just the opposite, CAMR would have the perverse result of allowing mercury emissions to increase in some states. If the board adopts CAMR, it will be obliged to undertake yet another rulemaking process

in the likely event that CAMR is struck down in the course of ongoing litigation in the D.C. Circuit Court of Appeals. The board would be wise to adopt rules that would be consistent with MACT standards that will eventually be adopted by EPA -- standards that reflect the best that can be done in controlling mercury emissions from power plants.

COMMENTS: An officer of the State and Territorial Air Pollution Program Administrators/Association of Local Air Pollution Control Officials (STAPPA/ALAPCO), testifying on his own behalf, and not on behalf of STAPPA/ALAPCO, commented that the position of state and local agencies that discussed MACT regulations for EGUs with EPA was: minimal subcategorization; the most stringent levels of mercury control possible; a multi-pollutant approach; enhancement of the ability of states to implement the standards; early compliance encouraged through the use of incentives; and no trading of toxins. It is clear that neurotoxins cannot be traded under the FCAA. The EPA rulemaking process ignored these points, and was truly flawed. In addition to the states' environmental commissioners, STAPPA/ALAPCO have stated that CAMR is inadequate to protect public health, inconsistent with the FCAA, and does not account for available technology. The Children's Health Protection Advisory Committee to EPA stated that CAMR does not go far enough to protect children, infants and women of childbearing age. CAMR is illegal and will be overturned. The deadlines are too protracted and it does not reflect what is technically feasible.

COMMENTS: A commenter stated that a February 3, 2005, report of the Office of Inspector General of EPA reported that politics steered science. The evidence indicates that EPA's senior management instructed EPA staff to develop a MACT standard for mercury that would result in national emissions of 34 tons annually, instead of basing the standard on an unbiased determination of what the top performing units were achieving in practice. The standard likely understates the average amount of mercury emission reductions achieved by the top performing utilities. In a similar May 2006 report, the Office of Inspector General of EPA stated that CAMR fails to recognize scientific data concerning local deposition and a great deal more monitoring is required to reach the conclusion that CAMR will not allow hot spots.

Emission Limits/Control Technologies

COMMENTS: Several commenters stated that the proposed emission limit of 0.9 lb/TBtu may not be achievable.

COMMENTS: SME commented that the proposed mercury emission standard of 0.9 lb/TBtu for implementation in 2015 is a very stringent limit and will be challenging to meet. SME is engaged in negotiations with two major international boiler manufacturers and both entities are uncertain that they can guarantee achieving 0.9 lb/TBtu on a standard sustainable basis. Both agreed to guarantee a mercury emissions limit of 1.5 lb/TBtu, or 90% removal, but stated it is one thing to achieve an emissions limit at a test facility and for short periods of time, but that betting \$515 million on a sustained capture rate is a different matter. Alstom Power, one of the boiler manufacturers, stated that the

issue with 0.9 lb/TBtu is a combination of not having field test data to support guaranteeing such a low level, and, perhaps more importantly, not having instruments capable of reliably measuring such a low level of emissions from a utility-sized boiler.

COMMENTS: PPL commented that it has reviewed the technology across the industry and conducted actual testing at the Colstrip facility, and the conclusions are that compliance will be difficult and will require the flexibility of trading because of the uncertainties with respect to control technology and the variability of the mercury in the coal. The three fundamental areas of uncertainty are: mercury content of coal; confidence in control technology for mercury reduction; and actual mercury reductions obtained at Colstrip after the application of mercury control technology. To achieve an emission limit of 0.9 lb/TBtu heat input, the level proposed in Montana's New Rules I and II, the required mercury control varies from 73% removal for the mean mercury content to 90% for the highest mercury content. More data must be collected from Colstrip coal source deposits to be able to predict the coal mercury content in future years. The current lack of data on long-term performance of various mercury reduction technologies on plants such as Colstrip that burn Powder River Basin coal may drive the plant to install far more expensive control than if there were flexibility to try more cost-effective controls with the option of purchasing allowances if those controls turn out to be insufficient.

COMMENTS: PPL commented that there is a lot of literature stating that different plants have been able to achieve different levels of control. What has been seen at Colstrip is that plant-specific conditions drive the level of control. As PPL reviewed the control technologies and their capture efficiencies, PPL has seen that, for the Colstrip facilities, it appears that additional development of chemical injection technology and use of the existing scrubbers at Colstrip may achieve up to 80% mercury capture. However, to get to the 90% level, the review of the technology indicates that a fabric filter probably would be required, and implementation of that technology would be a major retrofit at the Colstrip facility. Installing the technology at Colstrip required to achieve the small incremental gain from 80% to 90% removal would be a huge, difficult project and would be very costly. There are many issues involved with such a project, including finding the space to install the equipment and balance-of-plant impacts, such as the need for extensive ducting to tie the equipment into the plant, fan upgrades and probably extensive scrubber modifications to allow the plant to meet existing SO₂ requirements. The cost of a fabric filter retrofit at Colstrip, based on industry average, would be about \$250 million. The costs of addressing the balance of plant impacts could equal that amount, for a total of half a billion dollars. Such a retrofit would take at least 5 to 6 years from conception to implementation. Also, it is not certain that a fabric filter-type technology would achieve 90% control at Colstrip because, as PPL has learned in its testing, PPL has not been able to achieve the numbers that the literature indicates have been achieved at other facilities.

COMMENTS: PPL commented that there are a couple of specific conditions at the Colstrip facility that are unique. Colstrip is a mine-mouth plant that burns Montana coal, which is a low-sulfur, but also low-chlorine, coal. Low-chlorine coal limits the

effectiveness of a lot of control technologies because chlorine acts as an oxidizer, which helps convert elemental mercury to oxidized mercury so that it can be removed. Colstrip has no rail or loading facilities or coal blending capabilities to accommodate other coals at this time. The wet scrubbers at Colstrip are very efficient at controlling emissions from the plants, however, the predominant form of mercury in the flue gas from low-chloride coal at Colstrip, elemental mercury, is not water soluble and is not removed in the wet scrubbers. Oxidized mercury is water soluble and can be removed by wet scrubbers. There are control technologies that oxidize elemental mercury so that it can be removed in web scrubbers, and that is the prudent approach to take at Colstrip.

COMMENTS: PPL commented that there appear to be several technologies that can achieve from 50-80% mercury capture at Colstrip. One would be ACI. Up to 50% mercury capture may be achieved across wet scrubbers with this technology. However, in testing at Colstrip with ACI, less than 10% mercury capture was achieved with this technology. Another technology that may achieve this range of control is chemical injection. Up to 80% mercury capture may be achieved across a wet scrubber. PPL tested two different types of chemicals, both oxidizers, at Colstrip and achieved about 30% mercury capture with this technology. PPL also tested a combination of both activated carbon and oxidized injection. The preliminary results indicate that PPL achieved anywhere from 8% to 30% mercury capture with these technologies. This lower-than-expected mercury capture emphasizes the effect of plant specific coal and equipment on mercury control technologies.

COMMENTS: PPL commented that it appears that the lower mercury capture at Colstrip may be related to the mercury's attachment to very small particles. The Colstrip scrubbers are very efficient at removing the fly ash particulate they were designed to remove, which normally is in the range of 10 microns. Powdered activated carbon is much smaller than that, and it appears that it is getting past the scrubbers.

COMMENTS: PPL commented that it is planning long-term testing for 2007, which will be used to further develop the technologies to enhance capture and also evaluate balance-of-plant impacts. With almost all of these technologies, there is some negative result for the rest of the operation of the plant at Colstrip, and PPL needs to understand exactly what those impacts are going to be.

COMMENTS: PPL commented that, based on a limited amount of data, the KFx coal treatment process is expected to produce treated coal that contains up to 70% less mercury than untreated coal. However, the Corette plant's boiler may not be able to exclusively burn the treated coal because of its higher heat content. It is expected that the treated coal may have to be blended with untreated coal. Therefore, if mercury reductions greater than 30-70% are required, as would be required by the proposed rules, controlling mercury emissions solely by this fuel modification most likely would not be adequate to achieve compliance.

COMMENTS: PPL commented that using chemically treated ACI upstream of an electrostatic precipitator (ESP) has enabled some PRB-fired EGUs to achieve 90% mercury control. However, this technology has been tested only on plants that have a large ESP, as opposed to facilities with a small ESP, as exists at the Corette plant. The size of the ESP is important for the success of this technology because the amount of activated carbon that can be injected may be limited if the ESP is not large enough to collect enough of the particulates generated to remain in compliance with the facility's particulate emission limit. With no test data, it is impossible to predict how this technology would perform at Corette. A full-scale demonstration of ACI is needed at Corette to determine: whether brominated ACI can provide the required mercury removal; and whether ACI could pose an opacity problem or other operation and maintenance problems. The capital cost of installing a typical ACI system at Corette is estimated at \$855,000. The operating cost, which is a variable cost that increases with the consumption of chemically-treated carbon and any lost ash sales, could be very high, depending on the price of activated carbon and the alternative disposal costs for the fly ash.

COMMENTS: PPL commented that it is researching a Toxecon™ process, which involves the addition of a pulse-jet fabric filter downstream of the ESP. In the Toxecon™ process, chemically treated activated carbon is injected into the flue gas after the ESP, but upstream of the fabric filter. The capital cost of a typical Toxecon™ process system is about \$17 million, and additional plant modifications that have not yet been identified may be required. While the Toxecon™ process should address the ESP size limitation and should not affect ash sales, because the carbon would be collected in the baghouse while the fly ash would still be collected by the ESP, the process has a much higher capital cost and increased operating costs for disposal of the mercury-laden carbon in a landfill and has not been demonstrated for a plant that fires PRB coal. At the highest mercury control percentage evaluated, 90%, Toxecon™ represents a higher probability of success as a retrofit technology choice for Corette than does ACI. A brief test using ChemMod liquid also was conducted at the Corrette plant. Although the test looked promising, the plant did not achieve near the levels of reduction that would be required under the proposed rules. A longer test burn in the boiler would need to be conducted before PPL can consider it a candidate technology.

COMMENTS: PPL commented that the infeasibility of the proposed rules is illustrated by the fact that they would apparently require the Colstrip facility to commit now to the most aggressive technology currently available, the extraordinarily expensive fabric filter technology. However, there is no sound basis to project now that the technology will in fact achieve the 0.9 lb/TBtu limit by 2010. Long-term testing under varied circumstances that would be required to make that projection has not been done. Also, installation of the technology now would foreclose the option of adopting a new or different technology that may prove, as technology advances, to be a better choice – maybe the only good choice – for the facility. The proposed rules could force a choice for the Colstrip facility that results in the waste of hundreds of millions of dollars only to find that the facility is unable to meet the rule requirements.

COMMENTS: MDU commented that the rules should not contain specific emission limits, but that limits should be based on an achievable unit-specific technology through a BACT/Best Available Retrofit Technology (BART) process and should be included in permits. The technology selection, in conjunction with allowance trading, would address “hotspots” and allow sufficient flexibility for plant operators. The control selection process must include technology that is commercially available at the time of the selection, and consider energy impacts, other environmental impacts, and economic considerations. Due to the variability in coal and power plant configurations, limits should be based on technology selection, rather than the “one-size-fits-all” emission limits in New Rule I, Section 1. The cap-and-trade program should be used to supplement this approach, if needed by a unit to meet its allocation of the state’s budget.

COMMENTS: A commenter stated that, to be successful with mercury control technologies, it is critical to understand what you start with and the system you are trying to operate, and the challenge is significant. It is necessary to be able to follow the technology and somehow manage the way the system is operated to make certain the desired level of control is obtained over a long period of time. It is necessary to understand the combination of the fuel and the system and how those are interrelated in the particular situation, and ash characteristics and particulate control both can affect how effective different controls may be.

COMMENTS: A commenter stated that reliability and balance of plant equipment and operational impacts have to be known in order to determine mercury control availability. The initial sets of 30-day tests by EERC have been focused on the level of mercury that can be removed. The focus has not been on what happens to the rest of the facility when the mercury is removed. That will be the focus of the longer term Department of Energy testing in three or four month increments starting this fall.

COMMENTS: A commenter stated that, due to fuel differences, there is no one-size-fits-all technology. There are marked differences between western fuels and eastern fuels, and there are many related issues, but chlorine content is critical. In most of the eastern coals, there is a much higher level of mercury, so it can be reduced by 80%, but there may not be lower emission levels than what will occur with some of the other facilities, even under a much less scrubbed condition. There also are issues regarding guarantees, balance-of-plant impacts, and the need for longer term demonstrations. Regarding mercury control guarantees, vendors want to first have three facilities, at a 500-megawatt scale, operating for three years before they consider guaranteeing production levels and other impacts. Also, the power industry is unique in many ways because people are not willing to accept the lights going on 90% of the time. The equipment that is used to generate power has to be available all of the time, so it is necessary to be very careful and cautious about new technology options for this industry. We will get there, but we need to have the time to do this properly, and we need to go through the appropriate steps and get the information to make certain that we are not making big mistakes.

COMMENTS: A commenter stated that mercury control technologies are in various phases of development, ranging from technologies tested only in a laboratory to those that have undergone full-scale testing at coal-fueled facilities. Only one mercury control technology, ACI, has been tested for a longer period – one year at a single utility unit.

COMMENTS: A commenter stated that one of the primary concerns with the rules is that the board would establish an emission limit on a wide-range of existing and proposed power generation sources without knowing the costs or whether the affected community can comply. For example, there are facilities in Montana for which neither the department nor the board has any measured data with which to ascertain compliance with or without added air pollution control equipment. It is inappropriate to propose an emission limit for these sources without some advanced knowledge regarding compliance.

COMMENTS: A commenter stated that chlorine oxidizes mercury and the very low levels of chlorine in the coal burned at the Colstrip facility means that the vast majority of the mercury emitted at Colstrip is in the elemental form. Elemental mercury is not deposited locally, whereas oxidized mercury is, to a greater degree. The concentration levels of mercury in the coal at Colstrip also differ considerably. These fluctuations in concentration make it difficult to predict the type of control technologies and removal efficiency that will be needed to achieve a pre-determined emission limit at all times.

COMMENTS: A commenter stated that recent testing showed that the mercury capture rate is approximately 10% at the Colstrip units. Two “add on” methods are candidates to increase mercury capture, possibly in the range of 50% to 80%, using the existing wet scrubbers. These methods are chemical addition and ACI. Additional mercury control technologies are under development, which also operate by removing mercury. These, however, would have to virtually replace, not enhance, the existing wet particulate scrubbers at the Colstrip facility. Two of these technologies include: a fabric filter retrofit; and a multi-pollutant control process. Both of the replacement technologies have yet to be tested over the long term, and also would be very costly to put into operation at the Colstrip facility due to the need to replace the existing emission controls.

COMMENTS: A commenter stated that, unlike the units at which such technologies have been tested, the Colstrip facility has wet scrubbers rather than ESPs or fabric filters. Many mercury control technologies rely on mercury co-removal from ESPs or fabric filters.

COMMENTS: A commenter stated that the companies that make air pollution control equipment have concluded that a 50-70% reduction in mercury will be achievable within the next few years, by 2008 or 2010. Also, there has been an advancement in the control of western subbituminous coal mercury emissions. When

EPA came out with CAMR, it was thought that sub-bituminous coal was more difficult to control than bituminous. Now, it is just the opposite.

COMMENTS: Several commenters stated that the proposed emission limits either are appropriate or that they should be more stringent and require 90% to 95% control.

COMMENTS: A commenter stated that an alternative to a 90% reduction would be to set a low level to reach in a fixed amount of time.

COMMENTS: A commenter stated that new plants should be required to meet mercury emission standards as stringent as integrated gasification combined cycle (IGCC) technology would provide because it is clearly the best available technology. Existing plants should be required to remove 90% of mercury emissions and should be given short but adequate time to retrofit with the new technologies.

COMMENTS: A commenter stated that development of good control technology will protect coal's future and provide certainty to all stakeholders. Because CAMR will be found to be illegal, and everyone needs certainty for regulations, the greatest certainty will be in those states with stringent 90% to 95% control.

COMMENTS: A commenter stated that the rules should distinguish between existing and new sources. The board should give the old plants time to install the newest, best technology and achieve 90% control. The new plants, including the one being proposed for Great Falls, should be limited to zero emissions of mercury.

COMMENTS: A commenter stated that, given the level of technology that exists today, the performance standards applicable to new plants also should be required for existing plants.

COMMENTS: A commenter stated that emission levels below the proposed emission limit of 0.9 lb/TBtu likely will be possible using the best available technology, and the board should consider adopting a more protective emission limit. EPA's flawed allocation should not be used as the basis for determining an appropriate limit.

COMMENTS: A commenter stated that the existing rules are sufficient. When older plants are rebuilt, they are required to be fitted with the most up-to-date, cleanest pollution control technology available. The Colstrip and Corette plants are 25 to 30 years old. They all either have been substantially rebuilt already or are in the process, and they should be required to change their pollution control devices now under the current law. A society should use its best technology, which is the least that can be done for our children.

COMMENTS: A commenter stated that EPA's actions undermine Montana's ability to develop a plan that is right for our state, based on our concerns, and our industries, etc. Rulemaking is essential to reducing mercury emissions and protecting

public health, fishing, tourism, the recreation industry of our state, and our planet. If the board adopts the department's proposal, the board should eliminate the cap-and-trade provision, except, perhaps, for intrastate trading for a very limited time, and reduce the timeframe for meeting the lower emission standard from 2018 to, perhaps, 2010. The board should hold to stringent levels, from 1.5 to .9. A more stringent mercury rule would not cut off new development, given the 298-pound limit. States can decide the amount available for existing projects and the amount to be reserved for new ones. The board should allocate Montana's budget between existing and new projects in ways that best meet our needs and protect public health, and the department's proposal to reserve 29% for new projects and reserve 33% after 2014 is appropriate.

COMMENTS: A commenter stated that industry relies on the laws to make them responsible for the environment, and they will hold to those laws. The sooner the laws are set in place to control mercury, the sooner industry will do it. The longer the board waits, the more lenient the rules will be, and the longer it will take to reach the hydrogen age.

COMMENTS: A commenter stated that activated carbon and other sorbents have been available since the early 1990s and have been used in the U.S. and Europe to control mercury emissions from waste boilers. It has essentially eliminated mercury because the top two manmade mercury sources in the U.S. were the medical waste and municipal waste burners. Usually, pollution control devices are very large boxes, and the air pollution control equipment is comparable in size to the generating facility itself. Mercury control is not another big box; it is a way of turning existing boxes for SO₂, PM, and NO_x control into mercury control devices. Adding a "big box" for pollution control may take years, but mercury control can be added in about 6 months. If you install a "big box" device, you have made a huge capital commitment for the life of the plant, and if somebody comes up with a new, better control device, you can not take advantage of it. But, with sorbent injection, the advances in technology occur in what is put in the silo that is attached to the mercury control device. So, you are not stuck with today's technology. As sorbents improve, you can take advantage of the improvements.

COMMENTS: A commenter stated that the best particulate control device, for control of mercury, is the fabric filter. The dust is collected on a filter that looks like a giant vacuum cleaner bag. Because the dust is collected on the filter, carbon is collected on the filter, and there is very close contact between the gas and the carbon again, resulting in a second chance for removal. In an ESP, the plates are spaced about a foot apart and the particles are collected on the plates, so the gas flows between the plates, resulting in another chance for the gas to interact with the carbon. It is not as good as a fabric filter, but the gas is between the plates for a few seconds, and there is time for some additional removal. The most difficult case for mercury removal is the wet particulate scrubber. The gas comes in with the particles, the particles are hit with high-velocity water jets, and the water immediately captures the particles and sweeps them away. So, there is no possibility for carbon to have a second chance of contacting the gas, and it is necessary to focus on capturing as much

mercury as possible before it gets into the device, because the carbon is immediately removed.

COMMENTS: A commenter stated that the difficulties of dealing with western coals relate to the lack of halogens. Advances have been made, and halogens -- chlorine and bromine and fluorine and iodine -- can be added by spraying them into the gas stream or by adding them directly to the sorbent. Tests have been conducted to determine what this will do for western coals. At one plant burning PRB coal and using an ESP for particulate control, injecting a brominated sorbent achieved an average of 93% removal at a relatively low injection rate and achieved 0.4 lb/TBtu in a month-long test. In another unit burning PRB coal, with a spray dryer and fabric filter for SO₂ and particulate control, a control efficiency of 93% and 0.8 lb/TBtu were achieved.

COMMENTS: A commenter stated that the primary control device for mercury emissions from municipal waste combustors is the same control that would be used on power plants, proving that the technology is available and that mercury emissions from power plants can be controlled.

COMMENTS: A commenter stated that, despite arguments that mercury is a global issue and most emissions come from Asia, the U.S. can develop the technology for controlling mercury, control the mercury emissions we are responsible for, and export the technology around the world.

Best Available Control Technology (BACT)

COMMENTS: A commenter stated that the rules should require stringent BACT for all new units.

COMMENTS: SME commented that facilities for which permits have been issued prior to January 1, 2009, based on a BACT-analysis for mercury, should not be required to apply for a permit modification under the department's revised proposed rules. SME, for example, potentially would be required to undergo the time and expense of a permit modification, and the department potentially would be required to process two permit modification requests within two and a half years, which is unnecessary and a waste of resources.

COMMENTS: A commenter stated that the present BACT requirement in the Clean Air Act should be clarified further and not confused with "best affordable clean technology." ACI can be implemented immediately on existing plants and IGCC and wind generation can be required for all new plants.

COMMENTS: A commenter stated that coal-fired utilities are not only major sources of mercury, but also major sources of sulfur dioxide and nitrogen oxides. The board should define BACT for coal-fired boilers and put them on a schedule to meet BACT. At one time, it was thought that the useful life of a utility boiler was between 30 and 35 years. That has been stretched and almost 70% of the utility boilers currently

operating in the U.S. are 30 years old or older. The rules should require that, when a plant is upgraded, the air pollution control equipment is upgraded to best available technology. If a boiler is too old to be renovated or controlled, it should be placed on a phase-out schedule for replacement with modern equipment.

Integrated Gasification Combined Cycle (IGCC) Technology

COMMENTS: A couple of commenters stated that IGCC technology should be used in any new coal-fired plants. New development can occur without a trading program if new plants use clean technologies such as IGCC, which can remove as much as 99% of mercury emissions.

COMMENTS: A commenter stated that, under the Clean Air Act, the most effective, clean pollution control that is available is required for a new power plant. At this time, IGCC plants set that standard, achieving reductions to about .2 to .5 pounds per trillion Btu.

COMMENTS: A commenter stated that any new coal plants should not be constructed unless they employ zero emission IGCC technology. The utilities should use the coal industry lobby to obtain tax incentives to help update our infrastructure to get it into the 21st century. Other states are adopting stringent requirements and Montana has the strongest constitutional guarantees to a clean and healthful environment. We need to set the example for the developing world.

Alternative Emission Limits

COMMENTS: A commenter stated that the proposed rules would provide only an illusory mechanism to develop alternative mercury emission limits (AELs) because a facility would be eligible only after it is in noncompliance with federally enforceable emission limits, given that the proposed rules would be placed in Montana's State Implementation Plan (SIP).

COMMENTS: A commenter stated that technology selection must not be iterative and that the provisions for AELs should be replaced with a one-time selection of the best achievable technology. The fundamental fault with the current AEL concept is that each incremental installation is very costly and the effect is not necessarily additive. The cost, at least in the case of regulated utilities, will have a direct and significant impact on consumers. The board should pick one date by which a technology selection must be made and another date for installation and implement the results as a permit condition. Further equipment installation would be extremely costly and would not result in measurable reductions of mercury in the environment.

COMMENTS: A commenter stated that the BACT requirement and/or the mercury rules for new facilities should not result in a hard limit but should allow facilities a demonstration period after which an appropriate limit could be set, as was incorporated into the settlement regarding the Hardin power plant. The rules should

provide for an AEL that would provide a “soft landing” in the event that the limit is ultimately unachievable. Any AEL should be based on criteria that would promote advancement of control technology but that also would consider energy, economic, and environmental impacts, the type of control technology and boiler technology installed, and mercury and non-mercury coal constituents. Provisions for re-evaluation of an AEL should include a reasonable operating period, such as 10 years, and the rules should not arbitrarily terminate AELs in 2018 if performance criteria indicate that an AEL is necessary.

COMMENTS: A commenter stated that the board should adopt a “safety valve” of an AEL for those facilities that, despite the use of best available control efforts, cannot meet the 0.9 lb/TBtu standard on a consistent basis. A continuing AEL that does not expire in 2018, and limited interstate trading after 2015, should be allowed for those facilities that applied appropriate mercury control technology or techniques and that have demonstrated through emissions testing that the 0.9 lb/TBtu emissions level cannot be consistently achieved. These limited “safety valves” should be granted after a “best efforts” mercury control demonstration by the facility.

COMMENTS: A commenter stated that, because mercury control is rapidly evolving, facilities should be granted some regulatory flexibility, such as the ability to obtain AELs in the initial transition period until 2018. An EGU should be able to obtain an AEL if it complies with the requirements to install and operate control technology or boiler technology or follows practices projected to meet the mercury standard listed in the rules. The AEL should expire January 1, 2015, and extension of an AEL should be subject to a more rigorous showing that another AEL is necessary. The rules should require that an application for an extended AEL include the data and mercury control program associated with the existing AEL and available mercury control technologies. Only the same, or a more stringent, AEL should be granted in an extension, not a less stringent AEL. The rules should provide that, if an extended AEL is granted, it expires in 2018.

COMMENTS: A commenter stated that the commenter had never seen a rule, such as the first half of the department’s rule, that provides more flexibility to an industry for meeting a clean air standard. AELs mean that companies install technology that, on paper, can meet a standard. But, in fact, if the company cannot meet that standard when equipment is up and running, the company is not penalized, and that is appropriate. Companies should be forced to do their best, try their hardest, and install the right technology to achieve the standard. If they fail despite their best efforts, with the oversight of the department making sure that their best efforts are in fact their best, then they should not be punished, but should receive a temporary AEL for a couple years while they try to figure out how they can achieve the limit.

Soft Landing/Safety Valve

COMMENTS: Several commenters stated that the rules should include provision for a “soft landing” for plants that cannot meet the required standards.

COMMENTS: A commenter stated that EGUs should have a safety valve/AEL/soft landing that does not end. Considering the lack of maturity of mercury control technology, “hard limits,” would negatively affect the ability to obtain financing for new coal facilities, possibly, making the projects uneconomical.

COMMENTS: A commenter stated that the challenge of regulation is to not threaten generation but provide the opportunity to take advantage of technology as it improves. One way to do this is to account for plant-by-plant variations and costs. A fabric filter provides the most predictable performance for mercury control, but a wet particulate scrubber probably is the most challenging application for mercury control. Providing economic incentives for early compliance would offset some of the risks of new technology. Many problems won't be discovered and addressed until equipment is installed. By setting lower achievable earlier standards the board would establish the potential for greater reductions later. Unlike other air pollution control equipment, an activated carbon injection (ACI) system designed for 70% control looks exactly the same as an ACI system for 90% control. We do not know exactly what the performance curve is going to look like for every site. The rules have to be flexible because there is not much flexibility in dealing with the laws of physics and it is necessary to account for differences in costs and performance. Pennsylvania has a “soft landing” provision, so that if a facility installs the right equipment to meet the requirements of the regulation, and it does not meet the expected performance, the facility is considered to be in compliance. Minnesota has a large number of wet particulate scrubbers, and it accounted for the performance of this technology by establishing a two-phase program in which the units with wet scrubbers have a longer time to install different equipment. Banking provisions in Georgia and New Hampshire regulations encourage early reductions and result in controlling mercury much sooner than with a three to four-year implementation period.

COMMENTS: A commenter stated that the rules should incorporate a mechanism for developing requirements that would be implemented in three, four, or five years based on the fact that the technology has been improving over time and is likely to continue to improve.

COMMENTS: A commenter stated that, regarding the concept of a soft landing, the board already has such a regulatory mechanism in the BACT requirement, which already applies to new facilities.

New Facility Testing

COMMENTS: SME commented that the board should consider including the opportunity for new facility testing. A test period of six months to one year is needed to test any commercial-grade facility implementing the best available control technology, to accurately determine actual performance characteristics. SME wants to try to test halogenated sorbents in a field operation to determine how effective SME can be in its capture rates. The standards should be set on the basis of field tests, using Montana

coal, burning it with the best available control technology, sharing the results with the department, and sharing the scientific basis for setting the standards.

Subcategorization by Coal Type

COMMENTS: Several commenters stated that the rules should distinguish between lignite and subbituminous coal.

COMMENTS: A commenter stated that, to require a facility burning lignite to meet the same standard as for subbituminous coal would put the vast majority of Montana's coal resource at a significant competitive disadvantage. The other commenter stated that the department adequately addressed the distinction in its Proposed Alternative Rules.

COMMENTS: MDU commented that, if the board adopts firm limits, there should be higher allowances and limits for lignite.

COMMENTS: MDU commented that, in its experience as operator of a lignite-fired unit, the quality of lignite can be quite poor and inconsistent, and, occasionally, it is necessary to supplement the coal fired in its boilers with other coal, such as sub-bituminous, with lower moisture content, lower hardness, lower sodium, or higher Btu value. This supplement of higher quality coal may be as high as 30%. The only equitable way to resolve establishment of an emission limit for a plant that uses both lignite and subbituminous coals is to prorate the limit and allowances based on the amount of each coal used over a reasonable averaging period. Due to the long-term variability of lignite, this averaging period should not be shorter than five years, however, such a prorating system likely would prove to be quite unwieldy to manage. A simpler, and still equitable, solution would be to use 50% as the dividing point and distinguish the coals using the following language: "...for a mercury-emitting generating unit that combusts over 50% lignite..." and "...for a mercury-emitting generating unit that does not combust over 50% lignite..."

COMMENTS: A commenter stated that the rules should provide long-term predictability for the regulated facilities, and, therefore, should focus on achievement of the emission limits necessary to comply with the 2018 CAMR mercury budget of 298 pounds. Including existing EGUs and EGUs either permitted or in the permitting process, with heat input rates based on maximum design heat input for each unit, the limit that would enable compliance with the 2018 CAMR mercury budget of 298 pounds is 0.9 lb/TBtu, on a rolling 12-month basis. As lignite coal historically has been more difficult to control than non-lignite coal, the appropriate limit for the lignite-burning EGUs would be 2.4 times (using the EPA-derived factor) the 0.9 lb/TBtu rate, or 2.16 lb/TBtu.

COMMENTS: A commenter stated that the rules should recognize the different needs of existing, currently proposed, and new facilities, but eventually lead to a level playing field. One way to do that would be with allocation distribution under a backstop trading scheme on top of emission limits and control equipment requirements. The

preferred allocation scheme starting in 2015 would be as follows (based on the following emissions rate multiplied by the maximum design heat input of the unit):

2.4 lb/TBtu for facilities that commenced commercial operation prior to January 1, 2001, and do not combust lignite;

5.76 lb/TBtu for facilities that commenced commercial operation prior to January 1, 2001, and combust lignite;

1.5 lb/TBtu for facilities that did not commence commercial operation prior to January 1, 2001, and do not combust lignite; and

3.6 lb/TBtu for facilities that did not commence commercial operation prior to January 1, 2001 and combust lignite.

The differences between the lignite and non-lignite allocations reflect the 2.4 EPA factor for the different level of difficulty of control between subbituminous and lignite coals. Starting in 2015, the preferred allocation scheme would be 0.9 lb/TBtu for facilities that do not combust lignite; and 2.16 lb/TBtu for facilities that combust lignite.

COMMENTS: A commenter stated that the department should investigate the technology that has been claimed to allow lignite coal to burn as “cleanly” as non-lignite and that, if this is true, the restrictions in the rules should be just as firm for both types.

COMMENTS: A commenter stated that, for PPL to try to burn lignite at the Colstrip facility, there would need to be modifications to the boilers.

12-Month Rolling Average Emission Limits

COMMENTS: A commenter stated that a 12-month rolling average is an incredibly flexible and generous provision. Every coal seam contains different constituents, and a 12-month rolling average emission limit accounts for variability and allows a company that has a high level of mercury in one shipment of coal to moderate that with other coal shipments during the year. Regarding trading within plants, if PPL is having difficulty at its four Colstrip units meeting its strict mercury emission limit, three of those units can work really hard. If they average the emissions of those four units, the fourth unit does not have to do quite as good of a job, instead of being penalized for a particularly difficult unit.

Allocation Scheme

COMMENTS: A commenter stated that the proposed rules should treat new and existing facilities the same with respect to allowances. The board should not make material changes to the allocation plan in the proposed rules that could have an adverse effect on existing and planned facilities.

COMMENTS: A commenter stated that the department’s proposed allocation of the majority of the remaining 93 pounds of mercury emissions to new coal plants is flawed or premature. The department has overstated the amount of allowances needed by the Hardin Generating Station. An application has been submitted to the Department of Energy for a grant for the Hardin plant that requires plants to aim for 90% reduction in

mercury emissions. There have been many rumors that Bull Mountain Development Company is changing its proposal for the Roundup Power Project from a pulverized coal plant to a gasification plant. Bull Mountain has said in the press that it intends to build an IGCC plant and convert coal to liquids. It is inappropriate and premature to allocate 52 of the remaining 93 pounds of mercury to the Roundup Power Project when Bull Mountain is telling the press that it is going to build a different plant and, therefore, will not need any of the 93 pounds. Also, Bull Mountain's permit has expired. The legal process to settle this dispute is ongoing and its outcome remains unclear. Regarding the SME plant, it is presumptuous to allocate credits to a facility that is in the middle of the permitting process. Due to the high level of coal-fired power plant speculation in Montana and across the west, it would be premature and presumptuous to count any plant that has not been constructed. Allocations should be assumed only when a plant is operational.

Timeframes

COMMENTS: Several commenters stated that the timeframe for implementing the rules is too lenient to protect public health, due to the toxic nature of mercury. Commenters suggested 2008 or 2009 to better protect public health and allow people to eat fish.

Disposal of Captured Mercury

COMMENTS: A commenter stated that mercury captured on a sorbent or in the ash seems to be very stable and effectively removed from the environment. The one negative impact that has been seen is that, for a facility that sells the ash for use in concrete, the activated carbon absorbs some of the chemicals used in making concrete. Over the last several years, technologies have emerged to deal with this, and EPRI has a couple of configurations that allow use of activated carbon and sale of the ash.

COMMENTS: Two commenters stated that the board should consider, and the rules should address, what will happen to mercury that has been removed from coal and how it will be stabilized so that it is inert. It is necessary to ensure that people are not drinking the mercury that they do not want to breathe because it is a hazardous substance and it must be dealt with as a hazardous substance, otherwise, cleaning up the air will result in poisoning of the water.

Environmental Justice

COMMENTS: A commenter stated that the board should consider the environmental justice issue of native populations being disproportionately affected by mercury emissions. The board should review where native people are located in relation to the mercury sources.

Implementation of the Constitutional Right to a Clean and Healthful Environment

COMMENTS: A commenter stated that the Montana Constitution guarantees the right to a clean and healthful environment. Strengthening the state's mercury laws will bring the laws into compliance with the constitution, and it also will protect the health of all Montanans – both the born and the yet-to-be born.

COMMENTS: A commenter stated that the board should adopt strict, explicit mercury rules. Clean air is among Montana's most significant assets, and Montanans are very fortunate to be protected by the Montana Constitution. It would be tragic to permit mercury emissions to further harm our beautiful state. The department's proposal would allow complete agency discretion regarding whether a company is doing all it can to control mercury, and this is too big a risk for the public to take. The board should implement Montana's constitutional provisions for a clean and healthful environment by keeping mercury emissions out of our air.

Harm to Economic Development and Proposed EGUs

COMMENTS: Several commenters stated that the proposed rules would unnecessarily harm economic development in the state.

COMMENTS: A representative of an economic development group commented that the perception in the private sector is that Montana is closed for business. The state will not grow if more businesses leave or locate in other states, if youth do not want to work in burger establishments or clean motel rooms, and if youth continue to leave the state for higher paying jobs in Wyoming and North Dakota. The board should balance economic growth with environmental care. Natural resource development is a great opportunity for Montana, and the board should not prevent responsible energy development.

COMMENTS: A commenter stated that capital investment by industry is necessary to support schools, healthcare, and public infrastructure. Montana should encourage maximization of alternative energy sources, including conservation, but alternative energy sources cannot meet the market demand for energy. Montana, particularly eastern Montana, has the opportunity to make energy from all sources the largest and most lucrative export commodity, but that cannot happen if Montana continues to create barriers to business development.

COMMENTS: Commenters stated that hundreds or thousands of Montanans will lose their jobs if the board adopts rules that are more stringent than CAMR.

COMMENTS: Commenters stated that the rules should not put Montana at an economic disadvantage compared to neighboring states that appear to be adopting CAMR. Montana needs good jobs and an increased tax base, and a full cap and trade program would enhance Montana's ability to attract investment money necessary to develop the state's vast coal resources.

COMMENTS: A commenter stated that the proposed rules would unnecessarily harm the development of new coal-fired EGUs by imposing limits that are below those technically achievable on a consistent basis. The proposal also would unduly burden future operation of existing facilities because of substantial uncertainty as to whether such units can meet the proposed limits.

COMMENTS: A commenter stated that the proposed rules are not workable, will create considerable financial and technical hardships for companies operating in Montana, and will discourage other companies from investing in coal-based enterprises in the state. The ultimate result would be higher electricity prices for Montana customers and loss of potential jobs and tax revenues to the state, with no measurable health benefits beyond those expected to be realized by implementation of CAMR.

COMMENTS: A commenter stated that any mercury rule stronger than CAMR will stop development in Montana, including the currently proposed Great Northern Nelson Creek Power Project, and pose a risk to existing power generators.

COMMENTS: Great Northern commented that lenders will not lend money for a new coal-fired project that will become subject to a limit in the future that cannot be met today with existing technology, due to the potential that the project may not be able to meet the future limit. If Great Northern cannot obtain a guarantee by 2008 for mercury emission limits, there will be no funding, and the Nelson Creek Power Project will not be built.

COMMENTS: A commenter stated that economic development efforts in the state are under-funded and the board should not make decisions that will increase that hardship.

COMMENTS: A commenter stated that the board should be very careful in making rules that will affect the ability to build the SME Highwood Generating Station and any other plants in Montana.

COMMENTS: A commenter stated that McCone County is the site of Great Northern's proposed 500-MW Nelson Creek Power Project that would use the most advanced, reliable, clean technology and that Great Northern has stated that the proposed rules would stop development of the project and any other new development of Montana coal reserves. The county needs the project, and the majority of people in the county and surrounding counties support this development. Montana should not shut down the coal-fired electrical industry but should allow it to grow and create new technology to improve our lives, our communities, and our economies. It does no good to shut down coal development in Montana and then have coal plants in Canada or elsewhere with fewer environmental controls sell their electricity to the U.S. If Montana has greater regulation and a much higher cost of operation than surrounding states and countries, businesses will not locate here. McCone County and eastern Montana want and need responsible energy development.

COMMENTS: A commenter stated that McCone County is one of the poorest counties in the state but has large quantities of coal reserves that could be developed. Limiting this development with regulations that are more stringent than federal regulations would not serve any purpose but would limit the economic growth of eastern Montana.

COMMENTS: A commenter stated that, with the technology today, a coal-fired power plant can be developed and we can still have quality air and water. We should use our natural resources so that consumers can have affordable electricity, to stimulate the economy, and to help keep our young people in Montana.

COMMENTS: A commenter stated that it is tough watching little communities in eastern Montana die for lack of jobs and opportunities. This will continue, and there is a need for coal-fired generating power. While the governor is touting development, his agencies are drafting rules to stop coal development. The company developing a plant near the commenter, the Nelson Creek Project, a coal-fired generating plant near Circle, told the commenter they could not build the plant if the proposed rules were adopted. The rules need to be workable to allow coal development.

COMMENTS: A commenter stated that no other industry in Montana's history has made such a significant positive impact on the economy of our state as the coal industry has. The rules need to allow for responsible development of Montana coal reserves and power plants rather than prohibit them or provide other states an unfair advantage. Montana's future needs a balance of the economy and the environment. Mandated imbalances in either direction hurt everyone. Natural resource development is an opportunity in Montana right now, and the board should not kill this opportunity.

COMMENTS: Several commenters stated that protection of public health is more important than economic development or that the proposed rules would not harm economic development.

COMMENTS: A commenter stated that some things in life are more important than jobs and the economy, such as health and life itself. Trading mercury emissions is unethical. It may be deemed legal, but it is morally wrong to inflict such a widespread and long-lasting health hazard with the capacity to cause a multitude of known health problems affecting hundreds of thousands of lives, not only human, but animal lives as well. This includes not only those who live within the vicinity of mercury emissions at the present time, but foreseeable generations to come. The board should not allow monetary or political reasons to be the bottom line in making this momentous decision, which we will be living with for generations to come.

COMMENTS: A labor organization stated that it supports standards that are protective of public health because it believes that Montana can go beyond the federal standard. This will create more new jobs in Montana because laborers across the state will install the technology.

COMMENTS: A commenter stated that Montana can meet its 298 lb. cap without impeding future coal plant development. The commenter stated that, according to the department, a 0.9 lb/TBtu mercury emission limit would result in 205 pounds of mercury per year being emitted by existing coal plants. That would leave 93 pounds for new development. An allowance of 93 pounds of mercury for new plants would allow for six to 16 new coal-fired IGCC plants. The board should consider the capabilities of IGCC.

COMMENTS: A commenter stated that Montana power plants generate more power than Montana needs, and Montana exports power, so new power plants in Montana are not necessary. Montana can have economic development and solve the country's power shortage problems by producing coal and shipping it out of state to the states that need to burn it. If they burn it, they will be more careful with it, and they will learn how to produce power with less environmental degradation.

Economic Impacts to Ratepayers

COMMENTS: Several commenters stated that the proposed rules would increase the costs to power consumers.

COMMENTS: A commenter stated that there is no known, proven technology that can reduce mercury emissions at Montana power plants burning Montana coal to the level mandated in the proposed rules and that, therefore, it is impossible to predict the economic impacts to the companies, and ratepayers, etc.

COMMENTS: A commenter stated that the proposed rules would negatively impact ratepayers, industry, unions, and communities, with little or no demonstrable benefit to the people of Montana, because reducing power plant mercury emissions would have no more than a negligible impact on mercury in the food chain.

COMMENTS: A commenter stated that the costs to comply with the proposed rules would be considerable and that regulators will not disallow pass-through of costs for legally-required additional pollution controls.

COMMENTS: MDU commented that the costs to consumers are higher as a result of plants having to comply with more stringent rules. For regulated utilities, such as MDU, costs associated with a more stringent state rule most likely would have to be borne solely by the ratepayers of the state issuing that rule.

COMMENTS: SME commented that the cost to install ACI for the SME Highwood Generating Station would be about \$35 million. Including operation and maintenance costs, the operating costs on an annual basis would be more than \$1 million per year. Over the life of the project, this cost would show up in power rates.

COMMENTS: A commenter stated that the board should balance the responsibility for the health of Montanans with the cost that the rules would have for every electricity ratepayer in Montana.

COMMENTS: A commenter stated that, because mercury is a global issue, Montana electricity ratepayers would be paying for a benefit that they would not receive.

COMMENTS: A couple of commenters stated that PPL will not pass on the cost of compliance to ratepayers.

COMMENTS: A commenter stated that mercury regulation beyond cap-and-trade won't harm ratepayers but would create a level playing field among all companies in Montana, especially because PPL is the only company that may be directly spending significant amounts to comply with the rules. Due to deregulation, PPL bases its rates on what the market will bear, and it is not able to recover the costs of investments in pollution control as it could have done as a regulated entity. PPL will soon discover that, to compete nationally, it will need to produce clean energy.

COMMENTS: A commenter stated that PPL charges market rates, and will charge as much as it can. A mercury rule will only take away some of its profits.

COMMENTS: A commenter stated that the commenter is willing to pay whatever it takes to reduce mercury so that people are not subsidizing the coal industry with the health of our children or with the health of the children in China or wherever the mercury eventually is deposited. The governor of California and governors of other states are saying that they don't want to take power unless it is clean power. They could say that, unless Montana meets their standards, they are not going to take our power. So Montana should develop standards that are going to be acceptable in this industry. Also, the utility companies were not at all reluctant to drive up the costs for Montana consumers for their own profits, but they are reluctant to drive the costs up to protect the health of the world's children.

COMMENTS: A commenter stated that the cost of any requirement for an upgrade of the Colstrip units will be shared on a pro rata basis, based on investment participation, and that 70% of the responsibility for anything related to Colstrip upgrades will be borne by regional utilities and regional customers. The commissioners in Washington and Oregon have no interest in exporting the impacts associated with their power use to Montana, North Dakota, or Minnesota or downstream states. They are very progressive in terms of recognizing their responsibility as consumers and as state agencies to bear the real cost of their electric consumption. Based on the Federal Energy Regulatory Commission decision that it did not have monopoly power, which constituted a \$40 million gift to PPL, PPL is well-positioned to step forward and accept its responsibility for mercury impacts and any requirements that the board may place on PPL's outdated, 25-year-old technology. That is a depreciated plant, and the cost has declined over time with depreciation. The suggestion that there should not be some level of upgrade of pollution control is not valid. Montana Dakota Utilities (MDU) has

expressed concerns, on behalf of its customers, of course, about the impacts of a mercury rule. MDU has not had a rate case in Montana since 1986, 20 years ago. MDU is doing very well and has no interest in exposing itself to a rate case in Montana. The dominant theme in consumers' complaints have not been related to the cost of environmental protection. They have been related to matters such as excessive profits, executive compensation, inefficiencies, and deregulation. PPL will charge whatever the market will bear, which is why it is doing so well. There is not a regulatory agency to allow PPL to build in the cost for this new upgrade, but it also does not have the regulated cost basis that the other four utilities have.

COMMENTS: The same commenter stated that, if the board does not ensure that projects incorporate the best available technology, this would distort the economics of project alternatives. The board should ensure that the real costs are built into the project so that choices can be made, otherwise choices are distorted in favor of old and outdated technologies, relatively dirty fuel, and relatively dirty plants. There is a great impetus and a lot of economic interest in developing coal, and if we do not address these issues right now, we are missing a golden opportunity and locking ourselves into a bad prospective future. All of the costs that are imposed on society should be built into the projects so that good economic decisions can be made and consumers face the real cost of their consumption. That way, they can choose alternatives that may be less damaging. Let the PSC take the heat for the rates. That is what we are getting paid for. If the board just deals with the fundamental mercury issue, then everybody will be well-served because that is where the board's expertise is.

COMMENTS: A commenter stated that technology currently is available that would reduce mercury emissions from coal-fired EGUs by 90%. When passed on to consumers, the cost per household to implement stronger mercury controls than those promulgated by EPA would amount to less than \$1.50 per month.

Reliance on Ability to Later Amend Rules

COMMENTS: Great Northern commented that the board should not rely upon the ability to come back and conduct later rulemaking to correct any errors in the rules, because errors would be fatal for the Great Northern Nelson Creek Project. For example, a correction in 2010 would be too late for Great Northern to meet its 2013 timeframe.

House Bill 521

COMMENTS: Several commenters stated that the proposed rules could not be adopted, pursuant to Section 75-2-207, MCA, of the Clean Air Act of Montana, which implements House Bill 521 from the 1995 Montana Legislative Session, because the criteria for adoption of a state rule that is more stringent than a comparable federal regulation or guideline, CAMR, cannot be met. There is no evidence in the record, and the board cannot show, that the proposed rule "protects public health or the

environment, ” “can mitigate harm to the public health or the environment,” and “is achievable with current technology.”

COMMENTS: A commenter stated that most of the experience with mercury control technologies is based only on short-term testing, sometimes of 30 days or less. This is not enough time to determine efficiency rates, or effects on existing plant equipment, etc. True estimates of operation and maintenance costs have not been, and cannot be, ascertained over the short-term. There are no peer-reviewed scientific studies contained in the record that would form the basis for the board to conclude that anything other than CAMR would accomplish the objectives.

Montana Environmental Policy Act (MEPA)

COMMENTS: Several commenters stated that the board is required to comply with MEPA for this rulemaking and has not done so.

COMMENTS: A commenter stated that the board’s mercury rulemaking process is not the functional and legal equivalent of the MEPA process. A process that is “functionally equivalent” would entail at least the board independently investigating the issues relating to regulating mercury emissions, instead of relying on the analyses of interested third parties.

COMMENTS: A commenter stated that the fly ash from the Corette plant is sold for use in concrete. Varying levels of mercury could be contained in the fly ash used in the manufacture of concrete, which is an issue requiring further assessment under MEPA.

COMMENTS: A commenter stated that this rulemaking is not subject to MEPA because the rulemaking does not constitute an action on the part of a state agency. The rules would require the owner or operator of an EGU that is subject to the rules to apply for a permit. Issuance of a permit would constitute an action, and would be subject to MEPA. Also, in issuing a permit, the department would be able to conduct a MEPA analysis for the particular EGU and situation in question.

Economic Impact Statement

COMMENTS: A member of the Montana Legislature commented that a petition from legislators would be submitted to require the board to prepare an economic impact statement on the proposed rules. Subsequently, a petition requesting preparation of an economic impact statement was submitted to the board.

Reasonable Necessity for Rules

COMMENTS: Several commenters stated that the proposed rulemaking does not fulfill the mandatory procedural requirement of Section 2-4-305(6), MCA, of the Montana Administrative Procedure Act (MAPA), to provide an adequate statement of

reasonable necessity for the rules and that any rule more stringent than CAMR is not “reasonably necessary.”

COMMENTS: A commenter stated that the board cannot meet the requirements of the Clean Air Act of Montana to establish that the restrictions in the proposed rules beyond the requirements of CAMR are “reasonably necessary” to carry out the purpose of the act, which is to protect air quality in Montana, and that the board cannot make required findings, based on record evidence and peer-reviewed studies, that the more restrictive requirements of the proposed rules are needed to protect public health and mitigate harm and are achievable with current technology. The restrictions that go beyond CAMR do not meet these requirements because those restrictions will not have any discernible impact on mercury levels in Montana. Mercury deposition in Montana is very low to begin with, and the proposed restrictions beyond CAMR will not produce meaningful further reductions in mercury deposition within the state. Especially under these circumstances, there is no justification for imposing more stringent emission limits that cannot be achieved with current technologies, as confirmed by recent testing at Colstrip, and without the flexibility afforded by the cap-and-trade provisions of CAMR.

Rule Language Clarifications and Other Changes

COMMENTS: Several commenters suggested language changes in the rules.

COMMENTS: Several commenters stated that the rules are not clear, are too complicated, leave too much room for interpretation, and/or leave too much room for department discretion.

COMMENTS: A commenter stated that there should be specific objective criteria for the department to determine whether to establish an AEL and that the department should be required to review the demonstration of the technology being used on the facility to control mercury emissions, including the results of sustained emissions testing while employing that technology, as well as its cost and feasibility. Because the phrase “constitutes a continual program of mercury control progression” is not defined and is not limited by considerations of cost effectiveness or feasibility, the term could be interpreted to allow the department open-ended discretion to impose untested mercury control technology as a condition of establishing an AEL. The propose rules should be expanded and clarified to explain the process the department will use for establishing an AEL. Using the principles from a BACT analysis, the rules should incorporate a review of technical feasibility of mercury controls, i.e., controls that are available and applicable, and a review of the cost-effectiveness of those available controls.

COMMENTS: A commenter stated that the rules should clearly state that a facility in compliance with an AEL is not in violation of the Clean Air Act of Montana. Under New Rule I(7), while the department would be barred from initiating enforcement action, failure to attain the 0.9 lb/TBtu mercury emissions limit still would constitute a violation of the act and the SIP. A facility would be vulnerable to a citizen suit and/or EPA enforcement action if it was in compliance with an AEL but not the 0.9 lb/TBtu limit.

Subsection (7) should be revised to add the phrase “exceedance of a limit established by (1)(a) shall not be a violation of the CAA of Montana, 75-2-101, MCA, nor the Montana state implementation plan under the federal CAA and,” before the phrase “the department may not initiate”.

COMMENTS: A commenter stated that the department’s proposed mercury limits for 2010 are vague, confusing, and infeasible. The proposal appears to allow for an AEL if the plant properly installs controls that the department determines are “projected to meet” this limit but they fail to do so. But, the rules contain no direction on how such determinations and projections would be made. The rules should clearly describe the process for approving control technologies designed to meet the limit.

COMMENTS: A commenter stated that the proposed rules do not provide a definition of “practices.” It is the commenter’s understanding that a pre-combustion process such as K-FuelTM, would be a recognized “practice” as a compliance option for coal-fired power plants. If this understanding is not correct, the board should revise the language appropriately so that all mercury reduction techniques and processes, including pre-combustion, are treated as equal solutions to reducing mercury emissions and meeting required emission rates.

COMMENTS: A commenter stated that, if the board adopts Rule II, the language should be clarified. “Allowance allocation value” should be defined as one allowance for each ounce of mercury emitted per year. The allocation also should be clarified. The formula in subsection (2) is pounds x MMBtu/hr x 8760 hours = “allocation allowance value.” Subsection (5) states that the department shall allocate mercury allowances on a first come, first served basis, by date of commencement of commercial operation, and allocations may not exceed the Montana mercury budget. The board should clarify what occurs if the cap is exceeded. The board should clarify whether the most efficient plant has to cease operation, whether the department would start with the most recent commencement date and work back to the oldest plant, or whether some prorata formula would apply.

COMMENTS: A couple of commenters stated that the rule requirements should take effect either immediately or as soon as possible.

COMMENTS: A commenter stated that, under New Rule I(2)(a), the deadlines for notice of failure to meet the mercury standards are far too liberal. Notice should occur within six months, or by April 1, 2011, whichever is earlier. Under Rule 1(2)(b), the deadlines to apply for an AEL also are too liberal and should be within 18 months, or by July 1, 2011, whichever is earlier.

COMMENTS: A commenter stated that trading of surplus mercury emission credits should be reserved for use only by new or expanding mercury emitting units, rather than for ongoing units that fail to operate within their assigned limits. Credit buying and selling should not be used to perpetuate noncompliance. There should be stiff fines for units that are not in compliance, and the fine could be granted back to the

owner of the noncompliant unit upon the investment in adequate pollution reducing technology.

COMMENTS: A commenter stated that the proposed rules do not provide definitions for the two categories of EGUs covered. The board should clarify what constitutes a unit that “combusts lignite,” to ensure that utilities cannot make a windfall profit by receiving allowances based upon the lignite standard when the EGU is actually burning a significant amount of subbituminous coal. In ARM 17.8.740, “Definitions,” the board should insert the following language:

(13) “a mercury emitting generating unit that does not combust lignite” means a mercury emitting generating unit that combusts lignite in an amount less than 10% of its total heat input, calculated for the prior calendar year on a calendar year basis.

(14) “a mercury emitting generating unit that combusts lignite” means a mercury emitting generating unit that combusts lignite in an amount equal to or greater than 90% of its total heat input, calculated for the prior calendar year on a calendar year basis.

COMMENTS: A commenter stated that further definition of the AEL requirements is necessary. There are situations where there is no technology or practice that can achieve a standard from a technical perspective, be operative for the specific unit in question and/or be economically viable for the specific unit in question. Requiring installation of that equipment, solely for the purpose of having it fail in order to qualify for an AEL puts the company in the position of incurring not only stranded equipment, installation, and operating costs, but also lost revenues from outages and other reductions in efficiency in electrical generation. The board should borrow from existing Clean Air Act concepts and amend New Rule I(2) as follows:

If the owner or operator of a mercury-emitting generating unit properly installs and operates control technology, boiler technology, or follows practices projected to progress to achieve the mercury standard in (1)(a) (but only to the extent that such technology or practices are technologically feasible, commercially available, and economically viable for the specific mercury-emitting generating unit), and the control technology, boiler technology, or practices fail to achieve the emission rate required in (1)(a), the owner/operator

COMMENTS: A commenter stated that, if the board adopts cap-and-trade, the rules should include a provision prohibiting facilities from speculating in mercury allowances merely because they hold an air quality permit.

COMMENTS: EPA commented that Montana’s approach of incorporating by reference most of the provisions of the EPA model rule not only facilitates EPA’s review but also will facilitate adoption by Montana of changes in the model rule.

COMMENTS: EPA commented that, to be consistent with the change EPA made to the Montana EGU mercury budget in the May 31, 2006, final rule on reconsideration, New Rule II should state Montana’s EGU mercury budget in ounces of

mercury, because each of the allowances that will be allocated will authorize one ounce of mercury emissions.

COMMENTS: EPA commented that New Rule II(1)(a) requires Montana to submit allocations to EPA in 2009, and later, for the control period four years after the year of the submission deadline. For example, in 2011, Montana would have to submit allocations for 2015. However, the proposed rules state that trading will not be allowed after 2014. Consistent with this intent, the draft rules should bar allocations for control periods after 2014.

COMMENTS: EPA commented that, similar to EPA's model rule, New Rule II(1)(c) would provide for allocations in the absence of state submission of allocations to EPA. CAIR NO_x model trading rule initially included a provision similar to that in the mercury model rule. EPA subsequently removed that provision from CAIR and may propose to take the same action regarding the mercury model rule. Therefore, Montana should reconsider the need for New Rule II(1)(c).

COMMENTS: EPA commented that, under New Rule II(2), allowances would be determined by multiplying each unit's "maximum (nameplate) heat input value (in mmBtu/hr)" by 8,760 hours. The rule should describe what would happen if the calculation used in the allocation methodology resulted in total allowance allocations exceeding the state budget. The rule should provide a mechanism to reduce each unit's allocation, in that event, so that total allocations cannot exceed the state budget. New Rule II(1)(c) states that allocations will not exceed the budget, but the rule must explain how Montana will ensure this. Also, the rules should define the phrase "maximum (nameplate) heat input value," used in the rules. The rules should describe how the department will obtain this value or state that the department will use the best available data reported to it by the unit owner or operator.

COMMENTS: EPA commented that the rules should include language similar to model rule 60.4141(c)(2), describing how mercury allowances may be requested for a new unit.

COMMENTS: EPA commented that the rules should state the criteria the department will use to determine whether a unit is to be treated as combusting lignite coal, e.g., by specifying that a minimum percentage of heat input during a specified period must be from lignite.

COMMENTS: EPA commented that the proposed allocation methodology in New Rule II(2)(b), requiring surrender of "excess" allowances, assumes that each unit operates at maximum heat input value every hour of the year (8,760 hours), however, typically, units do not operate at this level. Therefore, every unit will be required to surrender allowances. The rules should describe how the "excess" allocation amount will be determined. Requiring surrender of "excess" allocations could create a disincentive to reduce emissions if the surrender is based on actual emissions. Also, the rules should specify procedures for implementing the requirement to surrender

allowances, e.g., procedures requiring unit owners and operators to transfer allowances to a Montana general account. Surrender of allowances by the owner or operator is not part of the EPA end-of-year compliance process and would need to be compatible with the allowance transfer deadline in the model rule.

COMMENTS: EPA commented that New Rule II should specify what happens to mercury allowances that are not allocated or to “excess” mercury allowances that are surrendered. Also, the rules should state what happens after 2014 to all unused mercury allowances issued by the department or held by Montana entities.

COMMENTS: EPA commented that New Rule I includes mercury emission limits applicable in 2010 and thereafter for some, but not all, units subject to New Rule II, but the rules provide for a cap-and-trade program only during 2010-2014. Montana needs to demonstrate that the state will not exceed its mercury budget for 2015 and beyond. For example, the state needs to show how its budget, which imposes a mass limit, will not be exceeded under rules that impose only emission rate limits and on some, but not all, EGUs.

COMMENTS: EPA commented that, to participate in the EPA-administered mercury trading program, Montana must adopt EPA’s model trading rule without substantive changes, except for the allowance allocation methodology. For example, substantive changes to the allowance transfer provisions of the model rule may not be made. The allowance transfer provisions allow facilities to buy and sell to any entity, without limitation, mercury allowances issued under the EPA mercury trading program. A state provision barring or limiting purchase of allowances from out-of-state entities would be inconsistent with the allowance transfer provisions and, thus, constitute a substantive change that would prevent EPA approval of participation by the state’s facilities, and use of the state’s allowances, in the EPA-administered mercury trading program.

COMMENTS: A commenter stated that the definition of “commence commercial operation” should be revised so that the rules apply only to facilities selling electricity. The definition, as contained in 40 CFR 60.4102, could be interpreted so that an EGU would be subject to the rules, including the emission limits, from the date of first firing, before selling electricity under contract, because of the phrase “for sale or use, including test generation” included in the definition in 40 CFR 60.6102. The definition of “commence operation” should include the phrase “supplying electricity to meet contractual obligations.” It is critical that facilities be allowed to conduct reasonable testing prior to commercial operation, without the threat of enforcement.

COMMENTS: A commenter stated that the board should not adopt the proposed AEL provisions but, if not eliminated from the rules, the AEL provisions should contain more certainty such that when a facility makes legitimate efforts to meet the final limits, the department must approve the AEL, and AELs must be available after 2018. Replacing the unworkable language of “projected, as determined by the department, to meet the standard in (1)(a)” with the following language might alleviate some concerns:

“A source qualifies for an AEL if it demonstrates that it has made best efforts to achieve the 2.4 lb/TBtu for subbituminous and 5.7 lb/TBtu for lignite coal emission rate by 2010 and 0.9 lb/TBtu for subbituminous and 2.2 lb/TBtu for lignite by 2018. The AEL means that emission rate which results from the source having applied the best system of emission reduction that is available and has been adequately demonstrated in the market for the configuration and age of combustion system, rank of coal and emission control in operation at the unit(s) or the source demonstrates by which date it intends to apply the best system of emission reduction taking into account the cost of achieving such reduction and any non-air quality health and environmental impact and energy requirements.” Another suggestion, which is not a preferred alternative, is to phase in emission limits to match the state budget.

Implementation of the Hardin Generating Station Settlement

COMMENTS: Centennial Power/Rocky Mountain Power commented that months before any party submitted proposed mercury rules to the board, Centennial Power/Rocky Mountain Power reached a settlement agreement with the department and the Montana Environmental Information Center (MEIC), which was approved by the board and under which: (1) the Hardin Generating Station would become a test facility for mercury control equipment for a 36-month demonstration period; (2) the company would install an ACI system or other suitable equipment at the end of the demonstration period; and (3) after an 18-month optimization period, the company would submit a permit application based on a factual analysis of the equipment. Settlements are worthless, however, if the department and the board can void those settlements through rulemaking procedures. If this is the case, parties in future disputes are less likely to consider settlement discussions and probably will proceed with full administrative/judicial litigation on disputed issues. The company is actively working toward quantifiable solutions to the mercury issue right now. In February of this year, the DOE awarded the Hardin Generating Station, in conjunction with ADA-ES, a \$3.2 million grant to test mercury control equipment. The testing will be partially funded by the company. This shows the company’s commitment to finding mercury emission solutions and to the Hardin settlement agreement. The company gave its word and intends to honor the Hardin settlement agreement, and MEIC has confirmed that it also intends to honor the agreement. The board and department should do the same. The board should incorporate a provision in any mercury rule it adopts that does not void the mercury control provisions of the Hardin Generating Station agreement.

Miscellaneous

COMMENTS: A commenter stated that mercury rules are necessary to avoid a situation like the contamination at the Zortman-Landusky mine.

COMMENTS: A commenter stated that there should be tax credits to give the coal/power companies incentive to clean up mercury emissions.

COMMENTS: A commenter stated that, at this time, coal is the most affordable form of creating electricity and that it does not make sense to restrict coal processing and then purchase electricity from others and take their pollution.